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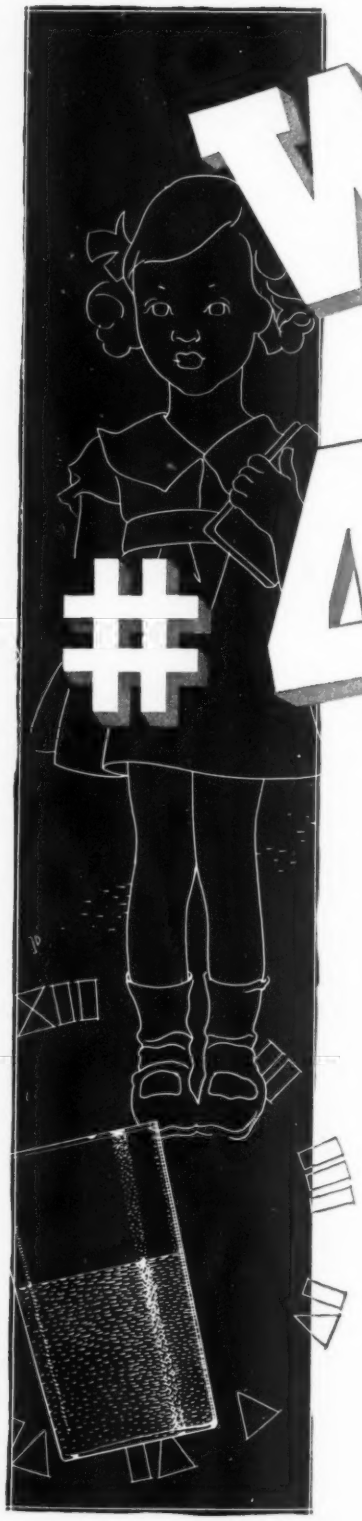

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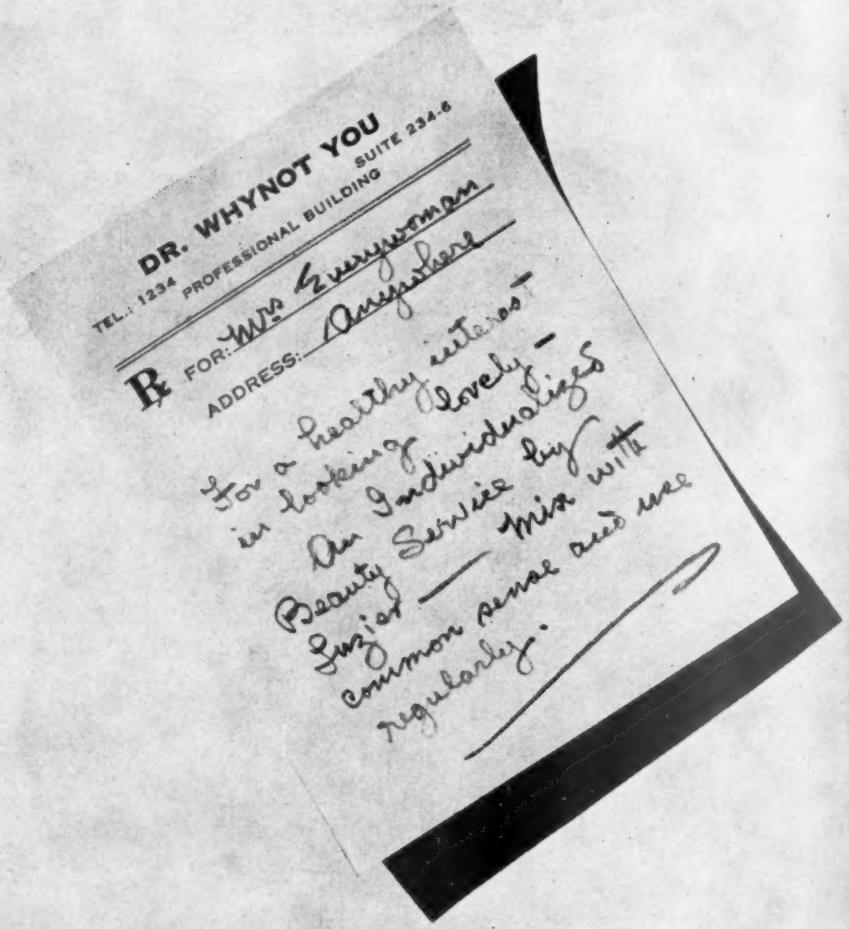

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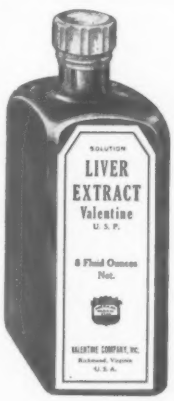

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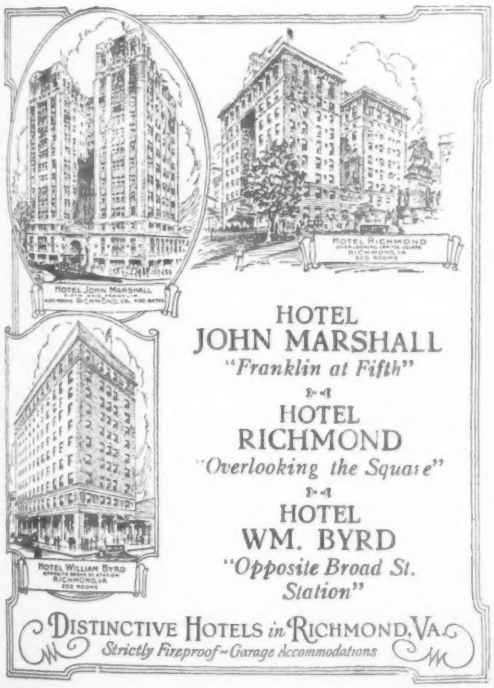

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TUBERCULOSIS IN THE NEGRO AND THEIR RESPONSE TO THERAPY.*

C. LYDON HARRELL, M.D., F.A.C.P., Medical Director,
Tidewater Memorial Hospital,
Norfolk, Virginia.

A very small percentage of the medical profession is interested in treating tuberculosis; a still smaller percentage is interested in treating tuberculosis in the Negro. The two are so interwoven, tuberculosis in the Negro race and White race, that it is utterly impossible to separate them. The Negroes do our cooking, handle our food before and after cooking, handle our dishes, fondle and care for our children, handle our laundry, often having entire care of our little children over the week-end without any supervision, so why treat tuberculosis in your own bedroom and pay no heed to the disease in your kitchen and dining room? The tubercle bacillus is no respecter of race or creed.

The writer cannot speak as an authority on the subject as his experience is limited to twenty-two years' work in a clinic with Dr. Charles R. Grandy, where we handled only ambulant cases, though many of them were sick enough to be confined to their beds; also the few cases I have seen in consultation and observing the work of others. During this time a few ideas have been formed around which this paper will be written.

Tuberculosis is still the most dreaded disease among the Negro race, ranking seventh as the cause of death in the White race, it is rated second as the cause of death in the Negro. In 1936, in Virginia, the White rate was 49.3 per 100,000; the colored rate was 157.4—over three times as great. In the Northern states there is a greater disparity than this. In 1933 the White rate was 44. per 100,000, while in the Negro it was 232, almost five and one-half times as great. Why this difference? Is it that the Negro is more susceptible to tuberculosis than the White? Is it his environment and economic status, or has he not received the proper care and attention by the profession as a whole and by those who hold the purse strings? Probably all play their part. We will discuss them separately.

It is believed by many that the Negro has not the inherited immunity nor is he able to resist tuberculosis as the White man. Dr. Grandy claimed that the high death rate in the Negro was due to a racial lack of resistance, the result of his relatively short period of contact with the disease rather than to bodily weakness or manner of living.[1] Dr. Carter claimed that the Mulatto stood the disease better than the pure breds or blacks.[2] This has not been borne out by other observers. Dr. Proffitt states from his observation, the Mulattoes do not respond more readily to treatment than do the blacks.[3] Pinner and Kasper, studying the post-mortem findings in 303 Negroes, concluded that certain significant differences between the two races are shown to exist: "1. Greater frequency of miliary tuberculosis in the Negro, 37.3 per cent to 15.5 per cent in the Whites. 2. Greater frequency of haematogenous metastasis in the Negro—84.2 per cent to 40 per cent in the Whites. 3. Greater frequency of lymphatic metastasis in the Negro—66.8 per cent to 10.8 per cent in the Whites. From these discrepancies he concluded that infection tends to produce a high state of allergy in the Negro, but that he, unlike the White, does not readily acquire a state of increased resistance."[4]

It is a known fact that in a majority of instances the disease is far advanced when they are first seen by a physician, involving a half to an entire lung, often both lungs. The reason for this may be twofold: Negroes as a rules are strong and robust and do not notice or give up to minor ills and complaints

*Read before the Norfolk County Medical Society, November 21, 1938.

Also read before the Seaboard Medical Association of Virginia and North Carolina, at Greenville, N. C., December 6-8, 1938.

as do the Whites. It is only after he becomes real sick does he consult a doctor. Secondly, their economic status no doubt plays an important part, not having the money with which to pay a doctor and buy medicine keeps many away who otherwise would seek treatment. After they have been told they have tuberculosis in many instances there is nothing they can do about it. They have nothing saved up, their insurance is no good, as insurance companies do not pay for tuberculosis. They keep going as long as they are able to go then seek the aid of a clinic or charitable organization. An interesting observation on the Negro, often the X-ray findings are out of all proportion to the physical findings. Dr. P. P. McCain states that less than 10 per cent in the Negro are recognized in the minimal or curable stage.[5]

Dr. J. A. Proffitt states that more than 70 per cent of the patients entering Piedmont Sanatorium are far advanced cases. He feels that their economic status is more important than a lack of immunity or lowered resistance.[3]

We have admitted in The Tidewater Memorial Hospital since December 27, 1937, to October 10, 1938, forty-one Negro patients, of whom twenty-two have died. Two patients died within two days after entering the hospital, the longest lived 196 days. The average of the twenty-two cases was sixty-two days. The cases I see in consultation are about 95 per cent far advanced and 75 per cent hopeless. This gives one an idea of the type of case seeking institutional care.

ENVIRONMENT

Environment plays an important part both in the morbidity and mortality of any disease, most especially in tuberculosis in the Negro, with its social contact, poor housing, houses poorly constructed and too small, necessitating in many instances for the entire family to sleep in one or two rooms, windows closed tight and heads under the cover in order to keep warm. "The writer has seen this on numerous occasions during his first years in practice, doing inspection work for the Metropolitan Life Insurance Company." Poor and insufficient food and clothing, too much visiting among the sick with poor sanitation—all or anyone of these help to lower resistance and spread infection.

Russell B. Roth, in 1935, studied a group of 7,405 men at Camp Dix, and a greater percentage of Whites were found to have tuberculosis than Negroes, 7.5 per cent in Whites, to 5.6 per cent in the Negro. Yet over a fifteen-year period the mortality in the White was 0.24 per 1,000 population, while that in the Negro was 0.99 per 1,000, about four times as great. These men were supposed to be getting similar treatment under similar conditions.[5] This argument is more in favor of poor resistance rather than poor environment.

Dr. P. P. McCain, quoting from a "Study of Mortality in the Negroes in Cincinnati, for the Period 1929-1931" by the Public Health Federation:

"It reported that the Better Housing League of Cincinnati estimated that one-half of the Negro population in Cincinnati, was housed under bad conditions, one-fourth under fair, and one-fourth under good conditions. In the population classed as badly housed, the Negro tuberculosis death rate averaged 500 per 100,000; for those housed under fair conditions the rate 250, and where good housing prevailed the rate was 93."[6]

This is an interesting study. I dare say that a similar condition exists in nearly every city in the country. What a challenge to get rid of the slums!

HAS THE NEGRO GOTTEN THE PROPER CARE AND TREATMENT?

In 1934 the deaths from tuberculosis among the Negro population in the U. S. amounted to 21,099. At the same time the number of beds set aside for the treatment of Negroes with tuberculosis amounted to only 3,334, a little less than seven patients to each bed. The National Tuberculosis Association recommends two beds per death, though they state that for Negroes, in whom the disease runs a relatively shorter course, one bed per death may be sufficient.[7] In the State of Virginia at the present time there are 167 state and 105 municipal beds, a total of 272 for the treatment of Negro patients. In 1933 there were 1,098 deaths in the State from tuberculosis among the Negro population; there were only 226 beds that year, a little less than five patients per bed. In the same year there were 936 White deaths from tuberculosis with 994 beds. Draw your own conclusions.

Virginia is not the only state lacking in facilities to cope with this great problem. There are many others just as lacking. In North Carolina there were 1,213 deaths among the Negro population in 1933 with only 222 beds, about five and one-half patients per bed. I understand their waiting list for admission to the State Sanatorium is over four months long. Are you surprised that 90 per cent are far advanced on entering the Sanatorium?

I admit that the State of Virginia has made wonderful progress in its fight against, and treatment of, tuberculosis. The death rate has been more than cut in half in the past twenty-five years but I always felt it was waging its chief fight from the wrong end. Our state Sanatoria were built primarily to take care of the minimal and early case of tuberculosis, leaving the advanced case to shift for themselves. They were not permitted to re-admit any cases, so long as there were new cases on the waiting list. There are many advantages and disadvantages to this which I will not attempt to discuss for lack of time. This left most of the advanced cases, the sputum positive cases, the very ones that spread the infection, at home to shift for themselves until in recent years the cities began to build local or community sanatoria to take care of the advanced cases and those unable for various reasons to gain admission to state sanatoria. There are four of these at the present time with a bed capacity of around 450, supported by the community plus twenty-seven cents per day per patient from state subsidy. There are thirty-three free beds for Negroes in Norfolk, seventy-six in Richmond, fifty at Piedmont, and they are hoping to build 100 next year. I feel we should have at least 500 free beds in the State as probably at least one-half of those who become ill are indigent patients.

The advanced case, the sputum positive case, is much more dangerous to the community so far as spreading the disease is concerned than the early case. I admit the advanced case, or real sick person, should be treated near home for numerous reasons, but he is just as much a care or responsibility of the State as an early case and all the burden should not be thrown on the community. The State should bear at least half the burden. The bulk of our advanced cases are among the Negroes and that is where we must concentrate our efforts if we are to conquer the disease. A well known health official once said, "If we were to blot tuberculosis out of the white race and leave the Negro to fight his own battles, within five years we would be back where we are today."

The State of Virginia, in my estimation, is spending too much for the treatment of tuberculosis in proportion for what they are spending to prevent tuberculosis. We should pay more attention to the advanced case and that applies especially to the Negro. Will the Negro take the cure and will he respond to treatment when offered?

Many have argued in the past that they will not take the cure and will not respond to treatment. More recent observers have changed that idea. Carter, in 1920, stated that the Negro will respond to treatment for tuberculosis.[2] Dr. John A. Proffitt, in a recent private correspondence, states that he has never considered the tuberculous Negro a hopeless proposition. "The response of the minimal and moderately advanced case to treatment is excellent and shows good response to collapse therapy."[3] Dr. McCain thinks the results obtained in the minimal and moderately advanced cases compare favorably with results in the White patients.[6] He is also getting good results from collapse therapy.

Dr. O. L. Ballard, colored, of Louisville, recently reported his results in a study of 226 Negro patients treated with some form of collapse therapy. 53.2 per cent were either quiescent or apparently arrested.[9] Dr. F. R. Trigg, colored, of our city, states that in minimal cases he has gotten good results from artificial pneumothorax in 71 per cent; in moderately advanced cases, 60 per cent.

The author's experience with pneumothorax in the Negro has been limited to refills in a few, all of whom did well. I have followed only three cases from the beginning of treatment; these refused sanatorium treatment and insisted on being at home.

A. M., a light Mulatto girl, age nineteen, broke down during her senior year at college. First seen in May 30, 1934, with advanced pulmonary tuberculosis involving about two-thirds of the left lung. T. 101; P. 118; W. 125½. Pneumothorax started immediately and continued until June, 1937. At this time she weighed 160 pounds and had been symptom free for nearly a year. She has remained well, teaching in the high school. Last seen June 14, 1938.

O. O., ginger-bread colored girl, age thirty-two, school teacher. First seen in May 16, 1936, when she was found to have an advanced case involving entire left lung; had been sick in bed six months when diagnosis was made. Weight 120. Pneumothorax started immediately; refused sanatorium treatment, and was handled at home. At the present time she is taking gas every two weeks. Weight went to 180 pounds. Had to be put on a reducing diet and thyroid. Has been symptom free for a year. Was told to go back to work any time she could get a job.

M. F., age twenty-four, dark ginger-bread colored school teacher, first seen September 13, 1937. Advanced case involving upper half of right lung—with cavity formation. Also had small lesion in left.

Pneumothorax started on September 14. She was kept in bed for six months, after which time she was symptom free. She had gone from 125 pounds to 160. In the spring of this year she returned to Wilmington, Delaware, where her husband was teaching, to continue her treatment.

Many of these cases become too fat. Whether this is due to physical inactivity, slowing up metabolism, or toxemia of the disease impairing the function of the thyroid. I do not know, but thyroid usually helps them.

If I were asked to classify the Negro with tuberculosis for treatment I would suggest two classes: the intelligent and less intelligent, and not into mulattoes and blacks. From the intelligent class comes the ones with higher incomes. They live on cleaner streets, in better homes, wear better clothes, have more and better food. They have less sickness as the result of better sanitation and better living conditions. They recognize symptoms of disease earlier and consult their physician. This class is willing to take advice and cooperate with the doctor. They respond to treatment almost, if not as well, as the White. The other, the less intelligent class, come in the low income bracket and make up the larger group. This group will require a great deal of thought and attention. Many of them are indigent and are at the mercies of clinics and charitable organizations.

WHAT IS THE ANSWER?

First—Economic. Second—Educational. Third—Early Diagnosis.

I shall not attempt to discuss the first except to say as their *economic status* improves the Negro will voluntarily improve his social standing by moving into better houses, buy more and better clothes and eat better food, have better working hours and more recreation. This, in turn, will help to build up their resistance to infection. There is very little we can do about this except to encourage employers to give them a helping hand, wherever and whenever possible.

Educational.—This can best be handled through the Negro physician and Negro nurse. The writer feels that tuberculosis in the Negro can be handled best by the Negro physician with our assistance. He knows their psychology and has a better sympathetic understanding of their problems. Then our education should begin with the Negro physician. First of all, he must have a place to work. A cabinet maker may have an abundance of material but without tools and a place to work he will never build a fine cabinet. Negro physicians, as a rule, do not have the proper place to work or a chance to get adequate training. After leaving college they should be encouraged in taking special training in clinics or tuberculosis sanatoria where they can be trained in making early diagnosis and taught how to properly care for a case. There should be hospitals or hospital wards in every city where Negro physicians may handle their own cases if they so desire. I think Piedmont Sanatorium, which admits only Negro patients, and is staffed by White physicians, should have a Negro interne. The Negro division of North Carolina Sanatorium has a White physician in charge but has a Negro resident physician and a Negro interne with excellent results, according to Dr. McCain. Give them a year's training in order that they may be better fitted to instruct and serve their people. We should be proud of the fact that Norfolk has in the Community Hospital an institution devoted entirely to the treatment of Negroes and staffed by Negro physicians, and that a plan is on foot to enlarge this institution and make it an A-1 Hospital. The bulk of the research work, planning and supervising, will have to be carried on by the Whites for a long time as they have better facilities and more money at their disposal. But a bulk of the private work and clinic work can and should be handled by the Negro physician, with our assistance. We should never refuse to consult with them and assist them in every way possible. It is our professional duty. I see no objection to the Negro physicians attending our scientific meetings and listening to the discussions. We have much they need. Why not supply that need?

An early diagnosis is most important in the successful handling of any disease but especially so in tuberculosis. We have heard of diagnostic clinics for years; they catch many of the school children and a few stragglers that voluntarily come to the clinics, but they do not get the bulk of the people. More drastic or systematic measures will have to be adopted. In February, 1933, the writer presented a resolution before the Tidewater Tuberculosis Hospital Association, that all servants, before going into homes where there were small children, should be required to present a certificate of health twice a year. This resolution was approved. It was later approved by the staffs of the Norfolk General Hospital, St. Vincent's Hospital and by our Commissioner of Health who also gave it some publicity in the daily

press. I do not believe it is being practiced to any great extent. I feel this should be encouraged as much as possible and it should extend to all food handlers. On the first thought, one would say that is a selfish move on the part of White people to cut some poor colored woman out of a job. That is true. It is selfish. We wish to protect our children from infection and re-infection as much as possible. But in the end the person seeking a job will be the beneficiary. It will force them to see a doctor when they otherwise would not. It would be the means of recognizing disease in an early stage, in the curative stage, where in many instances the condition would go undetected until it was too late. In other words, it will compel the people to keep themselves physically fit if they want a job as well as stop one of our most common sources of infection. We did it in typhoid fever, in malaria, small pox and yellow fever; why not tuberculosis.

In October of this year, at the meeting of the State Medical Society in Danville, the Committee on Child Welfare presented a resolution requesting the School Boards throughout the State to require each teacher in the elementary grades and kindergardens to present an X-ray picture of her chest once a year. This was approved and I hope it will be enforced throughout the State. It will be another means of making an early diagnosis on many of the school teachers; also it will break up another source of infection among the children in school.

At a recent meeting of the Southern Tuberculosis Conference held in Louisville, Dr. Paul B. Cornely, colored, of Washington, read a paper entitled, "The Tuberculosis Problem in the Negro Schools and Colleges," in which he advocated giving the tuberculin test to all students applying for admission in college, and that all reactors be X-rayed. He also reported the work done at Howard University under his supervision. For the school year 1937-38, 420 individuals were X-rayed. This group included 314 who gave a positive tuberculin reaction, 106 were not tested. In this group twenty-nine or 6.9 per cent showed infiltrations in the lungs, as demonstrated by the X-ray.[8]

In 1936 a survey was made with the high schools in Hampton and Phoebus, in which 1,055 children were given the tuberculin test. There were 353 reactors. There were 238 strongly positive reactors. All of this group were X-rayed. Dr. Parker, Dr. Grinnan and I made a physical examination of the 238. Eight cases were found positive to tuberculosis by X-ray and examination. One of these was a teacher. The total cost was a little over $1.00 per person.[9] Is it not worth it? The writer feels that if all the high school children and students on entering college could be given the tuberculin test and X-ray the reactors, many of our early cases would be detected that are now going on to advanced stage before a diagnosis is made.

It is at this stage during high school and college years that many of our boys and girls show their first adult form of tuberculous infection.

Once the cases are detected, provision should be made to take care of them. All positive cases should be isolated in a sanatorium if possible. Some one has estimated that every positive case of tuberculosis, up and about, comes in contact with at least twenty individuals a day. The average child can overcome a moderate amount of infection, but very few can stand constant re-infection. It is much more economical to take care of one case indefinitely than to have to treat the entire family later.

I wish to repeat that tuberculosis in the Negro is a responsibility of the departments of health and the medical profession. We should not try to shirk but shoulder our part of the burden. Free hospitalization should be furnished those who are unable to pay.

This burden should be borne partly by the community and partly by the State with Federal subsidy. Tuberculosis is a local, state and national problem, as these victims are constantly drifting from city to city and state to state. Consequently, the burden should not fall upon the locality entirely, but shared by the State and Federal government.

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800 Wainwright Building.

DISCUSSION

DR. NICHOLAS G. WILSON, Norfolk: In his excellent paper, Dr. Harrell has expressed some very practical ideas and valuable opinions, with most of which I heartily agree.

Whatever the ultimate cause or causes it is a fact that the death rate, from tuberculosis, of the American Negro far exceeds that of the white race. It is likewise a fact that, while during the past three or four decades the death rate from this disease, in both races, has markedly declined, the same proportional disparity continues or has increased. For example, in Norfolk, in 1907, the death rate from tuberculosis per 100,000 of population, was for the whites, 135, and for the colored 433,—a proportion of 1 to 3.2. In 1937, the corresponding rate was whites, 18.6, colored, 93.3—a proportion of 1 to 5.

In 1908, Dr. Charles R. Grandy, of Norfolk, whose studies of this problem received national recognition, expressed the opinion that this high proportional mortality among negroes was due to their environment. However, in 1924, after sixteen more years of study, during which time the general living conditions of the negroes in Norfolk had been greatly improved, he found the relative death rate higher and the actual decline much lower than among the whites. These observations led him to modify the opinion formed in 1908, and to attribute the high colored death rate more to an hereditary lack of resistance, than to environment. Like Dr. H. G. Carter, he frequently stated that the admixture of white blood increased this resistance, and his clinical records seemed to substantiate the opinion.

It is almost unanimously agreed that, in the negro, tuberculosis pursues a much more rapidly fatal course than in the white race, and there seems to be a fairly general opinion that the lung tissues of the former do not form fibroid tissue like those of the latter. However, in recent years, in our work in the Norfolk Antituberculosis League Clinic, we have noted that frequently, when colored tubercular patients can be removed from their environment of mass infection they do produce fibroid tissue to a satisfactory degree. If they are left with their old contacts from whom they receive frequent massive re-infections, they do not respond in this way. Their first infection, with the development of allergy, is not allowed time in which to produce relative immunity; therefore, they become hyperallergic, each new infection inducing more extensive breaking down of lung tissue until death ensues. Of course, this state of affairs is most commonly found among the indigent,—a class that, no matter how much slum clearance is done, will always be slummers unless their surviving children may be educated, until they desire something better. There is little doubt that there is a difference in the response of the tissues of the negro to the tubercle bacillus.

In 1933, at the Phipps Institute, Philadelphia, F. R. Everett conducted some carefully controlled post-mortem studies, and reported, in part, as follows:

(1) The anatomical characters of tuberculosis in the American negro differ widely from those of white people of the same community.

(2) Tuberculosis pursues a more rapidly fatal course in the negro than in white people,—widespread tuberculous pneumonia with rapid excavation is more frequent and formation of fibrous tissue is less conspicuous in the black than in the white.

(3) The childhood type of pulmonary tuberculosis with caseous tuberculosis of tracheobronchial lymph nodes occurs in nearly one-half of negro adults, but in only a small percentage of white adults who have died of pulmonary tuberculosis.

This report seems to confirm the opinion that lack of tissue resistance is the chief cause of the high colored death rate, but, as previously stated, there is evidence that reasonable segregation of cases of open tuberculosis enables those having minimal infection to attain a degree of immunity approximating that of the white race. I heartily agree with Dr. Harrell's remarks concerning the tragic need for more sanatorium beds. It is evident that here is a wonderful opportunity for a legitimate expenditure of Federal funds. Many of our cities maintain sanatoria wherein far advanced cases of tuberculosis among the indigent may be cared for, and it would appear very desirable that there should be such a sanatorium in each of the several districts of our State.

DR. ALBAN PAPINEAU, Plymouth, N. C.: Dr. Harrell has covered the subject admirably. I am glad to find that he places the economic and educational factors before early diagnosis—in order of importance. It is always a pleasure to diagnose tuberculosis early in the negro, but it is very discouraging if lack of funds prevents sanatorium treatment, and the patient is forced to remain at home, where he is likely to spread the disease, at the same time becoming a far advanced and hopeless case. Every county should have a small sanatorium where the far advanced case can be isolated, and those waiting to be admitted to a sanatorium can receive proper bed rest. In the colored home a tuberculosis patient cannot take the cure properly, and the small children and the neighbors are ever present. Colored patients who are able to pay their own expenses for cure are few and far between. County and state or federal aid are imperative.

The weak link in the chain in treating the colored patient with tuberculosis consists in delay in getting him to the sanatorium. Once there, the treatment is the same

as in the white patient, with practically as good results. At the present time at the State Sanatorium in North Carolina, there are 150 colored patients; seventy-eight of these receive unilateral pneumothorax, and an additional thirteen receive bilateral pneumothorax. Thus, two-thirds of the patients receive collapse therapy. Nine thoracoplasties with no fatalities have been done in the past ten months on colored patients. Two hundred and seven-four phrenicectomies have been done so far in negroes.

Doubtless you have heard that Dr. P. P. McCain is advocating a state sanatorium for Eastern North Carolina. This is greatly needed, but that alone will not repair the weak link in the chain, as I previously mentioned: money must be available to send indigent colored patients to the sanatorium, and see them through the cure.

TUBERCULOUS TRACHEOBRONCHITIS.

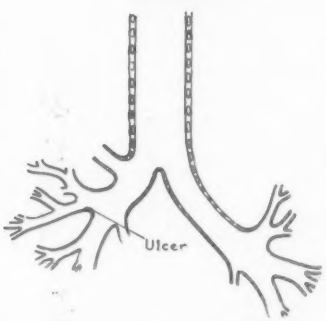
WALTER L. NALLS, M.D.,
and
DEAN B. COLE, M.D.,
Richmond, Virginia.

Although Eppinger described tuberculous lesions in the trachea and bronchi, seen at autopsy, before Koch had discovered the tubercle bacillus, there was but very little interest manifested in tuberculous tracheobronchitis until recent years. The classical papers by Eloesser in 1931 and 1932 did much to emphasize its importance and to stimulate interest in the condition. Almost simultaneously different groups made it the subject of investigation and in the past few years several excellent articles have appeared. To mention a few, the pathology has been described by Burgher, Littig, and Culp, and the clinical observations of Ballon, Kernan, Clerf, Sampson, Barnwell and Buckles have added much to our knowledge of the disease.

Case 1.
Fig. 1.—Thoracoplasty on left. Sputum still positive.

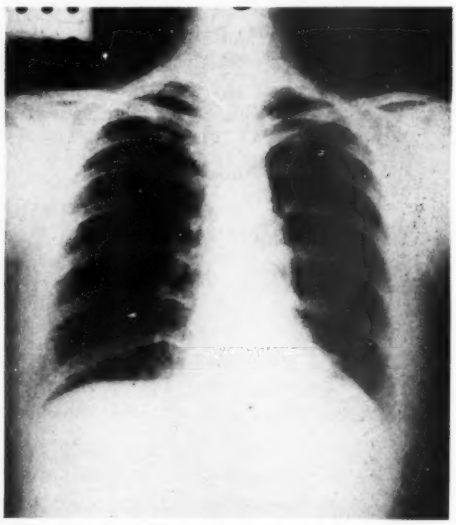
Formerly tuberculosis of the tracheobronchial tree was looked upon as an unusual complication of pulmonary tuberculosis encountered only at autopsy. There is every reason to believe that it occurred much more frequently than reports would indicate and failure to discover it in a greater number of cases has probably been due to the manner in which the lungs have been examined at routine autopsy. Unless the

Case 1.
Fig. 2.—Bronchoscopic appearance of small discrete tuberculous ulceration in right lower bronchus.



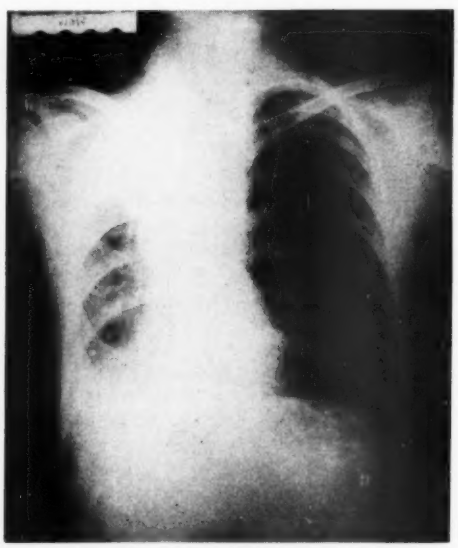
Case 1.
Fig. 3.—Diaphragmatic drawing of tracheobronchial tree showing location of ulceration.

lesion is kept in mind and searched for, and unless the trachea is opened and the bronchi dissected out as far as possible, and opened, these lesions will con-



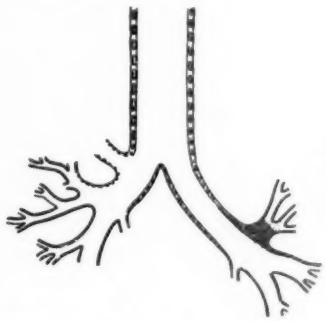
Case 2.
Fig. 1.—Minimal tuberculosis upper right lobe. Atelectasis of left upper lobe. Sputum positive.

tinue to be overlooked. This same thought obtains in our failure to recognize the condition clinically. It has been only in recent years that we have had a clear understanding of the morbid physiology pro-



Case 3.
Fig. 1.—Tuberculosis of right lung with considerable atelectasis. Sputum positive.

duced by these endobronchial lesions, and consequently the disease has gone unrecognized. Now that the clinical manifestations are better understood the disease is being discovered with greater frequency by everyone interested. Sufficient data are not yet available to permit one to speak with finality regarding its incidence but certain reports seem to indicate that it occurs more commonly than formerly believed. Sampson and McIndoe performed routine broncho-



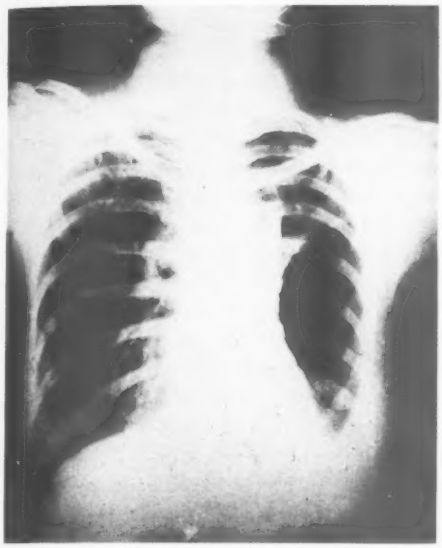
Case 2.
Fig. 2. — Schematic drawing showing tuberculous ulceration producing complete obstruction of left upper lobe bronchus.

scopy on all patients admitted to Michigan State Sanatorium for several months last year, and found tracheobronchial lesions in approximately 10 per cent of all cases. Warren, Hammond and Tuttle, performing bronchoscopy on a group of ninety patients

Case 3.
Fig. 2.—Bronchoscopic view showing large granulating tuberculous ulceration in right main bronchus producing obstruction to airways.

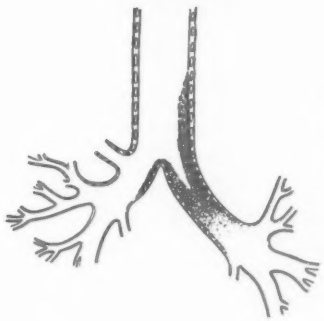
Case 3.
Fig. 3. — Schematic drawing showing location of tuberculous ulceration on right.

preparatory to thoracoplasty, found the condition in 13.3 per cent of these patients. It would appear then that an approximate incidence of from 10 to 15 per cent in the more advanced cases is not an exaggerated estimate. The condition may be considered a complication of pulmonary tuberculosis and occurs more frequently in the advanced cases. Its occurrence has been reported in patients with minimal pulmonary tuberculosis and Barnwell has reported one case in which there was no evidence of pulmonary involvement. Thus, extensive pulmonary involvement is not requisite to endobronchial lesions.



Case 4.
Fig. 1.—Tuberculosis of left lung treated by pneumothorax. Sputum positive after closure of cavity.

Case 4.
Fig. 2.—Bronchoscopic view. Large tuberculous ulceration in left main bronchus producing complete obstruction.



Case 4.
Fig. 3. — Schematic drawing. The tuberculous ulceration has completely occluded the left main bronchus and extends up along the tracheal wall.

The lesions commonly seen bronchoscopically are ulcerations, stenoses, and tuberculomata. Of these, ulcerations are by far the most common, and may be of two types: (1) the single, discrete ulcers, and (2) the granulating ulcers. The former are usually small and vary in depth depending upon the location in the bronchus. Their margins are well defined and are but little elevated above the surrounding mucosa, which appears relatively normal. The granulating ulcers are larger and may involve extensive areas of the tracheobronchial tree. Their margins are not clear cut but seem to fade out into the surrounding mucosa. Excessive granulations are usually present which, with the swollen and edematous adjacent mucous membrane, produce obstruction of the airway of varying degree. Stenosis may occur as a result of healing of ulcerations or without definite ulceration. Tuberculomata, though not common, may occur as globular, tumor-like masses, appearing not unlike new growths, protruding into the airway and producing obstruction.

Wheezing, rattling in the chest, and asthmatic attacks have been described as common symptoms of bronchial obstruction from any cause. It is not difficult to understand how these symptoms might be produced by tuberculous lesions in the bronchi, and are perhaps the most common encountered. Their occurrence should suggest the possibility of an endobronchial lesion, particularly if they persist, become more severe, and are not relieved by the usual remedies. Severe coughing occurring in paroxysms is frequently complained of and marked relief may follow the expectoration of thick, tenacious sputum or even bronchial plugs. The sputum, though not characteristic in appearance, often shows marked daily variation in quantity, and usually contains tubercle bacilli. Shortness of breath may occur and be out of proportion to the pulmonary involvement.

In addition to the findings of asthmatic rales on physical examination there often will be evidence of bronchial obstruction with resultant atelectasis. This

may be partial or complete and it is well to bear in mind that when the condition has progressed to complete obstruction the previously noted rales may disappear as air no longer is able to enter that portion of the lung. The only roentgenological evidence of importance is the occurrence of signs of atelectasis which may be lobar or lobular in distribution. In serial X-ray films small areas of lobular atelectasis may alternately appear and disappear, indicating a varying degree of obstruction in the bronchus draining the particular area.

While any of these symptoms or signs are suggestive of tuberculous tracheobronchitis, the final diagnosis rests upon visualization of the lesions through the bronchoscope. In patients having tuberculosis or suspected of having tuberculosis, should these phenomena appear, bronchoscopy should not be withheld as their presence is strong presumptive evidence of an endobronchial lesion. Routine bronchoscopy in tuberculous patients does not seem justified, but when there is evidence of a tracheobronchitis the presence of a pulmonary lesion does not constitute a contraindication. Since the wider use of the bronchoscope in pulmonary disease it has been fairly definitely established that little harm can come from bronchoscopy in tuberculous patients. Further, the possible good that may be accomplished more than offsets the possible dangers.

Evidence of bronchial obstruction, either partial or complete, furnishes the most common indication for bronchoscopy in the tuberculous patient. The finding of a positive sputum in the absence of sufficient demonstrable parenchymal disease to account for the bacilli in the sputum, or in the presence of what apparently is adequate control of the parenchymal lesion by collapse measures, likewise is strong indication for bronchoscopy. The same may also be said of pulmonary hemorrhage. Judging from the experience of others it seems advisable to perform bronchoscopy routinely on all candidates for thoracoplasty as a part of the pre-operative work-up. The finding of bronchial lesions may contraindicate thoracoplasty and thus avoid subjecting the patient to needless surgery.

Until recently it has been generally believed that there was no treatment worth while for these lesions and their presence forecast a grave prognosis. Deep X-ray therapy has been tried but its value is unimpressive. Hammond, Warren and Tuttle have recently reported their results in the treatment of a rather large series of cases. These results are encouraging, and others have also had similar experience. The usual method of treating the ulcerations has been the local application of silver nitrate and the surgical cautery, using a low coagulating current. Tuberculomata have been removed with bronchoscopic forceps, their bases being cauterized either with silver nitrate or the cautery. Healed stenotic lesions may be dilated when advisable.

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THE SURGICAL MANAGEMENT OF CHOLECYSTITIS AND CHOLELITHIASIS.*

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Gallbladder infection is a very common condition. It is the second most common intra-abdominal infection, being surpassed only by appendicitis. In approximately one-half of the cases of cholecystitis the appendix is also diseased, which supports the theory that gallbladder disease may be in part due to appendicitis.

Infection of the gallbladder usually occurs within the first two decades of life; however, at this time the symptoms manifested are those of vague "indigestion", and the real diagnosis is seldom made.

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Once the gallbladder is infected, it usually remains so, the acute stage passing into the chronic, so that in middle age gallstones frequently develop and cholecystitis is then manifested by gallstone colic. After the fifth decade the serious complications of cholelithiasis are most prone to occur, such as hydrops, empyema, gangrene, necrosis, perforation of the gallbladder with abscess formation or peritonitis. Acute hemorrhagic pancreatitis and intestinal obstruction are the more rare complications of gallstones, but probably the most fatal. Gallstones are found in about 70 per cent of the cases operated upon for gallbladder disease. Seventy-five per cent of the stones develop after the age of forty, and they are found to be present in 5 to 10 per cent of all autopsies. After the age of forty, they are four or five times more common in women; however under twenty, the incidence is about equal in both sexes.

MODE OF INFECTION

The gallbladder may become infected in a number of ways:

1. Through the bloodstream, as in typhoid fever, pneumonia, septicemia.
2. Through the biliary tract, as in typhoid fever or in other intestinal diseases through the portal system drainage.
3. Through the lymphatics.
4. Through direct extension, as in ruptured gastric or duodenal ulcer with abscess formation.

CLASSIFICATION OF CHOLECYSTITIS IS AS FOLLOWS

1. Acute catarrhal cholecystitis.
2. Chronic catarrhal cholecystitis.
3. Acute and chronic suppurative cholecystitis.
4. Gangrenous cholecystitis.
5. Cholecystitis obliterans.
6. Parasitic cholecystitis.
7. Malignant cholecystitis.

Gallbladder disease may be divided into three stages according to the symptoms:

1. *Catarrhal cholecystitis:* Usually develops before the age of twenty and is characterized by vague digestive symptoms such as flatulence, belching, heart-burn, sour stomach, bitter eructations and occasional spells of nausea and vomiting.

2. *Stage of Gallbladder Colic:* The attack usually occurs at night following a heavy meal, is sudden in onset, characterized by a sensation of fullness in the right upper quadrant with severe and often excrusiating pain radiating to the epigastrium, the back and shoulder blade along the right lower costal margin. The pain is usually attended by nausea and vomiting and occasionally relief is obtained by emesis; however, usually a hypodermic of morphia is required. It is most often seen in obese individuals between the ages of thirty-five and fifty, and is rather common in the last trimester of pregnancy. It is nearly always due to blockage of the cystic duct with a stone. Colic caused by acute cholecystitis is milder in character and is more prolonged, the soreness, pain and discomfort in the right upper quadrant sometimes lasting several days, accompanied by temperature elevation and leucocytosis. The onset of the attack as well as the subsidence is less abrupt than in cholelithiasis.

3. *Stage of Complications:* A previous history of gallstone colic can usually be obtained, the patient is usually over forty-five years of age and, when gangrenous or suppurative cholecystitis occurs, it is usually due to an impacted stone in the cystic duct. If the stone remains impacted for six to twelve hours, there is usually some necrosis or suppuration of the gallbladder and this is attended by marked nausea, vomiting and temperature elevation. The gallbladder at times becomes so distended that it may reach McBurney's point and cause confusion with appendicitis.

DIAGNOSIS OF CHOLECYSTITIS AND CHOLELITHIASIS

The diagnosis should be made early, but it has been the tendency for many of us to wait until gallbladder colic develops before it is considered. In order correctly to diagnose gallbladder infections in the early stage, the history and thorough physical examinations are extremely important. Often we are willing to treat digestive disorders symptomatically and indefinitely when cholecystography may reveal a non-functioning gallbladder and biliary calculi.

Cholecystography is the most important single procedure in making an accurate diagnosis. It is correct in 80 to 90 per cent of the cases. The dye may be given by mouth or intravenously. Serious reactions occasionally follow intravenous injections and it should never be given in this manner to patients with cardiac disease; neither should it be given to patients who are jaundiced, nor to patients with acute cholecystitis. There are several conditions which interfere with the gallbladder concentrating the dye, thus making it inaccurate and these are pregnancy, colitis, diarrhea, and occasionally acute

duodenal ulcer. The test must always be correlated with the clinical findings.

Duodenal drainage may be extremely helpful in making a diagnosis, for when the bile pigment and cholesterol crystals are found in fresh duodenal drainage, cholelithiasis will be present in 90 to 95 per cent of the cases, and when gallbladder epithelium is found, cholecystitis is present in over 90 per cent of the cases. Considerable experience is required, however, in examining the secretion properly.

A history of gallstone colic is very valuable in making the diagnosis and stones will be found in about 95 per cent of the cases. A negative history should not be relied upon. Quite often acute cholecystitis and gallstone colic will be atypical and must be differentiated from other conditions such as acute appendicitis, perforated gastric or duodenal ulcer, renal colic, cardiac disease, acute pancreatitis, acute pyelitis, gastric tabes and diaphragmatic pleurisy.

TREATMENT OF CHOLECYSTITIS AND CHOLELITHIASIS

As cholecystitis is almost always a permanent infection and progressive in character, it is in the majority of cases best treated surgically. A small percentage of the cases will be so mild in character that medical treatment may be satisfactory.

Until 1933 the general consensus of opinion among American surgeons was to wait on acute cholecystitis to subside provided the general condition improved and the temperature and leucocytosis subsided. Lahey staunchly advocated this routine, as he so strongly emphasized in his paper on the subject in 1932. After waiting two to four days, however, if the general condition did not improve and the temperature as well as the leucocytosis increased, he then advocated doing cholecystotomy followed by cholecystectomy two to four months later. There were a few surgeons, however, who did urge immediate operation prior to 1933 and some of these were Walton, Kerschner, and Erdmon. At the 1933 meeting of the American College of Surgeons, a symposium was held on the "Treatment of Acute Cholecystitis" and there was noted a definite increased tendency towards the immediate operation. Drs. Stone and Owings presented a paper advocating immediate operation on all cases of acute cholecystitis and advised cholecystectomy instead of cholecystotomy, stating that in their experience the mortality is lower, the patient is saved time, pain and expense. They pointed out that it seemed impossible to expect spontaneous recession of the process when the cystic duct is blocked and that the logical outcome in many of the cases will be rupture with localized abscess or generalized peritonitis. Drs. Judd and Phillips in their paper also subscribed to the plan of early operation, stating that there is less fear now in early surgery, which may be due to the fact that the infection is not always the cause of the condition and that many surgeons are operating early with comparative safety. On the other hand, they felt like each case was an individual one and that there were cases in which surgery should be postponed. They also advocated cholecystotomy in the extremely obese patient with a deep, inaccessible acutely inflamed gallbladder, instead of cholecystectomy. Dr. Waltman Walters believed in immediate surgery if the patient is seen early in the attack, reporting a series of seventy-six cases treated in this manner at the Mayo clinic, from January, 1934, to July, 1936, with a mortality rate of 3.9 per cent. In this series cholecystectomy was perfomed in sixty-five cases and cholecystotomy in eleven cases.

The treatment of cholelithiasis is always surgical as soon as the diagnosis is made, provided the patient is a fair risk. Even when the gallstones are found in a routine physical check up, their removal should be advised, provided the patient is a fair risk, for at this time the mortality is low and dangerous complications with high mortality rates will be avoided later on. When patients have had numerous attacks of gallstone colic, they have had also numerous attacks of cholecystitis, which in turn infects the biliary tree and often produces an ascending infection in the liver. In many cases due to repeated attacks of cholecystitis, the gallbladder wall is almost completely destroyed, causing dense pericholecystic adhesions and in this manner gravely interfering with the functioning of the stomach and duodenum.

Infection of the biliary tree not only predisposes to hepatic insufficiency but also to the formation of calculi. It is generally accepted that stones are formed in the hepatic and common ducts due to the presence of infection, in all probability. Lahey has had stones to form in the common duct in a few cases, five to ten years following cholecystectomy, at which time the common duct was thoroughly explored and irrigated with the removal of several calculi. Lahey reports that in 96 per cent of the cases of the common duct stones, stones are also

found in the gallbladder and in only 4 per cent of common duct stones has there been an absence of gallstones in the gallbladder.

If gallstones could be removed early, there would be less infection in the gallbladder, less infection in the biliary tree, fewer common duct stones, greater hepatic sufficiency, and a much lower mortality rate.

Quite often following cholecystectomy, stones are left behind in the common duct. Lahey contends that in 39 per cent of the cases stones in the common duct do not cause jaundice. In many instances they are not palpable, especially when they are located within the hepatic ducts. In some cases there is no dilatation or thickening. Prior to 1926 the common duct was explored in 12 per cent of the cases at the Lahey Clinic, and in 8 per cent of them stones were found. Since that time the duct has been opened in 38 per cent of the cases and stones discovered in one-half, or 19 per cent of the cases. Lahey has listed the following indications for exploring the common duct:

1. In patients who have been jaundiced.
2. When the duct is dilated.
3. When the gallbladder is markedly thickened or contracted.
4. When the head of the pancreas is thickened, for here stones may be present at the ampulla of Vater.

When the stones are left in the common duct, and secondary operation is required, the average mortality is 10 per cent.

While Lahey feels that routine exploration of the common bile duct does not alter the mortality rate, the general consensus of opinion is that there is a definite increase, which is especially noted in the obese patient or in the patient with hepatic insufficiency, which is so often present.

Quite often we are prone to think that colic following cholecystectomy is due to a stricture, adhesions, pylorospasm and mucus plugs, but in the vast majority of cases stones have been left in the common duct.

The subject of cholecystitis and cholelithiasis is not complete without discussing the treatment of "painless jaundice". In most of the cases, the jaundiced patient is a surgical case if catarrhal and hemolytic jaundice can be ruled out. Often, when jaundiced patients are explored, an inoperable carcinoma is found at the head of the pancreas, so a good rule to follow in these cases is "Courvoisier's Law" which is as follows:

If jaundice is present and the gallbladder is palpable, the jaundice is due to a malignancy at the head of the pancreas. If on the other hand the gallbladder is contracted and can not be felt, the jaundice is due to a calculus in the common duct. It is obvious that the rule is of great value only when the gallbladder is palpable through the abdominal wall.

A jaundiced patient is usually a poor risk because of the increased danger of hemorrhage, not only at operation but postoperatively, and also because in many cases there has been back pressure on the liver with a marked loss of hepatic sufficiency. When to operate on these patients is often a hard problem to decide. The safest rule as Dr. Waltman Walters has pointed out is to wait for the bile pigment retention in the blood to become stationary. If the patient is subjected to surgery when the blood bilirubin is rising, the risk is much greater, but when a plateau is reached the mortality is lowest. No jaundiced patient should be treated as an emergency. Their preoperative preparation must be adequate. Most surgeons now agree that the main objective is to increase liver function and this is done best by placing the patient on a high carbohydrate diet, administering glucose and saline intravenously and giving blood transfusions pre- and postoperatively. Calcium is now considered of very little value. There is considerable experimental work being done now on the use of vitamin "K" and bile in reducing the clotting time in jaundiced patients, and Walters has reported cases in which it has been of decided value. While strenuous preoperative preparation is always necessary in the presence of jaundice, it should never be neglected in any patient undergoing surgery for biliary tract disease, for in the majority of these cases the mortality is not in the gallbladder but is in the liver.

Selecting the best anaesthetic for each individual case is a great factor in keeping the mortality low in all gallbladder surgery, and in regard to this there is some disagreement among outstanding surgeons. Ether may cause marked liver cell necrosis if anoxemia is present in the liver, and quite often it is, due to a slowing of the vascular stream. It may then cause severe postoperative shock. Chloroform has long been discarded, due to its destructive action on the liver. Nitrous oxide and oxygen rarely ever render sufficient relaxation, so our best anaesthetic is probably spinal and, when there is some contra-

indication to this, local may be used. If necessary, it may be supplemented with gas. Spinal anaesthesia is used in the great majority of all cases of biliary tract surgery at the Lahey Clinic.

Over a period of slightly more than a year we have operated on thirteen cases either for cholecystitis, cholelithiasis or both at Riverside Hospital. The pathological report in eight instances or in 62 per cent, was cholecystitis with cholelithiasis. In four cases, or in 31 per cent, the report was chronic cholecystitis, while in one case, or 7 per cent, the pathological diagnosis was subacute cholecystitis with cholelithiasis. Nine of the cases gave a history of gallstone colic, and in each case gallstones were found. The youngest in the series was twenty-seven years, while the oldest was seventy, with an average of forty-three years. There were nine females, 69 per cent, and four males, 31 per cent. The predominating symptom in each case was pain or discomfort in the right upper quadrant, while a previous history of chronic dyspepsia was elicited in every case. In seven cases cholecystography was used to confirm the diagnosis, while in six cases the clinical picture and history only were relied upon. In three cases, or 23 per cent, jaundice was present, and in one of these cases calculi were removed from the common duct. In the other two cases of jaundice the duct was not explored, due to the patient's poor condition, and also because the common duct was not dilated and no stones were felt. In two instances, or in 15 per cent of the cases, surgery was carried out immediately, while in eleven cases, or 85 per cent, operation was delayed.

In 77 per cent, or ten cases, spinal anaesthesia was employed, procaine hydrochloride being used mostly. In the other three cases nitrous oxide, oxygen and ether were used. In one case the patient, who was a white, married female, was severely jaundiced, was seventy years of age, had chronic nephritis and a ten-year history of gallstone colic. She was treated pre-operatively for two weeks, transfusions being given, and she made an unexpected smooth convalescence following operation.

In another case the patient, a white, married female, age sixty-two, made a normal convalescence following cholecystectomy. Many stones were found in the gallbladder with no dilatation of the common duct and it was not explored. About three months later she was readmitted, jaundiced and having colic. It seemed probable that a stone had been left in the common bile duct, but she cleared up under symptomatic treatment and has been well since, no second operation being necessary. In this series there were no deaths and, although it is too soon to draw final conclusions, it has been possible to follow every case, all of which are now doing quite well.

One interesting case not included in the series because she was not operated upon, was that of a fifty-five-year-old white, married female, weighing 202 pounds, who was admitted on July 7, 1938, in diabetic coma. She had been seen nine hours previous to admission by the referring physician who had to use morphine to relieve an attack of severe pain under the right costal margin. After this the patient did not awaken and, when admitted to the hospital, was in profound diabetic coma, the blood sugar being markedly increased and the urine four plus sugar with much acetone. After forty-eight hours the patient became markedly jaundiced, the icteric index reaching 140 and the previous suspicion of stone in the common duct seemed more correct. The gallbladder had been removed twenty-five years ago. She was treated pre-operatively by insulin, fluids, intravenously and transfusions of whole citrated blood, and was carried to the operating room on July 13 for exploration of the common duct. After spinal anaesthesia, the blood pressure dropped so low that it could not be obtained and the respiratory rate became so markedly depressed that surgery was deferred. Following this she made a hasty convalescence, the jaundice gradually diminished, and the general condition steadily improved. She was discharged on July 27 and has had no recurrent colic or diabetic coma. It seems logical to assume that in this case the stone was passed and whether the spinal anaesthesia could have been a factor by producing relaxation will always be a question.

In summarizing, it should be noted that gallbladder disease is one which occurs early in life, characterized by gallstone colic in middle age and dangerous complications most often after the fifth decade. The diagnosis in most cases can be made early, cholecystography being the most valuable aid while duodenal drainage is of value. The general consensus of opinion concerning immediate and delayed surgery in acute cholecystitis is still a point of debate, but there is a definite trend towards immediate surgery, many excellent papers showing that

it is comparatively safe. Cholecystotomy is still useful in many cases and each case should be treated individually. Cholelithiasis should be treated surgically if there are no strong contra-indications to surgery. The common duct should be explored more often, especially when it is dilated or there is jaundice. The patient's condition, however, must always be fairly considered. Jaundice must not be treated as an emergency and the patient should always be treated adequately, pre-operatively to increase liver function. Spinal anaesthesia is the best whenever it can be used, as it produces optimum relaxation and the least shock. In the extremely toxic patient or the elderly patient, local anaesthesia with gas inhalation as a supplement will be found less dangerous.

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THE ADVANTAGES OF THE ABDOMINAL APPROACH TO HERNIA.*

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To those who were privileged to work with the late Dr. G. Paul LaRoque, my remarks may seem presumptive, but to those who were not his former associates I hope to be able in this brief paper to show why the LaRoque operation for inguinal hernia should be more widely used. It is my belief that the operation has never been appreciated as it should be, and that this is because it has generally been misunderstood even by surgeons, the approach as you will see differing entirely from that of the Bassini operation.

It was my privilege to work with Dr. LaRoque for five years, during which time the subject was rewritten by him and many new drawings made which are now shown in all of the leading textbooks on general surgery. Many of his concise comments on the subject are still fresh in my mind as is doubtless true with some of you. If I should seem a bit too enthusiastic on a subject which many men consider closed, it is because I was made to understand it by the author and have an ever-increasing conviction that his operation is far superior to any as yet brought forward for the cure of inguinal hernia.

Briefly, the operation consists of an incision slightly higher than that usually made for inguinal hernia, opening the aponeurosis of the external oblique, then a muscle splitting incision through the transversalis and interior oblique muscles about one inch above their lower border. The peritoneum is then opened and the ring or hernia-bearing portion of the peritoneum is excised as far away from the hernia orifice as is consistent with peritoneal suture without tearing or undue tension. The wound is then closed as in any McBurney incision for appendicitis—for in reality we actually have made a low McBurney incision. This procedure has nothing to do with the type of canal repair and the operator is free to vary this according to his own pet methods. Personally I do the Bassini repair, using chromic catgut for those herniae with small necks and an autogenous living fascial suture (obtained from the inner side of the slit made through the aponeurosis of the external oblique fascia) for the correction of the muscular defects found in those with large necks.

This operation, which consists of excising the "ring bearing" portion of peritoneum, is based on the saccular conception of hernia which is now universal. At this time I want to stress what a hernia is. Quoting LaRoque, "it is a pouch of peritoneum which contains or is capable of containing a portion of an abdominal viscus." Therefore, when we are examining for hernia we are trying to see if something descends or tries to descend—"the impulse" is what we are looking for. It is not always safe to say that a patient does not have a hernia; while we may be unable to demonstrate it at the time, we must bear in mind that violent straining, lifting, etc., may have demon-

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strated this condition before, and without that same increased intra-abdominal pressure, we may make a diagnostic error.

It is in this type of case that we are apt to be misled in the belief—long a popular one—that trauma or suddenly lifting something heavy causes a hernia. Having operated upon a few of these so-called "traumatic herniae" within forty-eight hours after their first appearance, and having failed to find any evidence of a peritoneal tear, contusion, ecchymosis or congestion, or indeed anything not found when operating for "non-traumatic hernia", I am forced to agree with LaRoque that there is no such condition as traumatic inguinal hernia. Since the laws of this State permit of compensation for "traumatic hernia", it does not behoove one to argue this belief too openly, however.

In support of this contention, allow me to illustrate by saying that if the testicle is in the bottom of the sac, everybody agrees that it is an infantile type of hernia. If, however, that sac does not go as low as the testicle, most surgeons will call it an acquired hernia. Is this reasonable, or is it merely accepting the ideas of our predecessors and thereby closing the subject to further thought? If one is hernia-minded he will look for hernia when operating for other things, and in a short while his conception will change. Many patients are turned down by the medical boards of the larger companies merely because of a dilated external inguinal ring, which is not enough; there must be an "impulse" or something descending, else there can be no demonstrable hernia. I have had to operate on a number of these cases in order for them to obtain work. If the doctor who had refused to accept the applicant had been present, I could have at least tried to change his conception of hernia, so that in future this type of case might not be subjected to unnecessary surgery in order to provide for his family.

Since the days of Halsted's and Bassini's monumental work on hernia, all thought on the subject has been directed to the methods of canal repair and in spite of the applications of all of these ideas and of varying suture materials the old operation carries with it a recurrence rate from 9 per cent to 12 per cent. These figures are taken from the *Annals of Surgery,* September, 1937, in which a symposium on hernia was presented by several of the best known surgeons of the North. Are we content with such a high recurrence rate, and what is the percentage of failure after the LaRoque method? I am sorry I cannot answer this question. Several hundred cases are now being reviewed by a co-worker and I await those results with the keenest interest. My own series is too small for conclusions. I am aware of but one failure, however. Many of these were done at the Medical College of Virginia hospitals and at the Sheltering Arms Hospital. Should failures have occurred, I think it a safe assumption that those patients would have had to enter again these institutions for recurrent hernia. Upon frequent inquiry of the house surgeons at the College hospitals I am advised that as yet none of them have returned. Many of the cases now being studied are old cases of mine. More than 1,000 cases are being followed up; the results will be interesting. LaRoque had made a check on many of his earlier cases and said, "I will not give you the result lest I myself be misled and branded as a liar by my co-workers."

Recurrent herniae done by this method reveal a few interesting facts. The most common is the finding of the original hernial orifice and a varying amount of true peritoneal sac with the bottom of the new sac made up of false peritoneum, indicating that the sac had not been completely removed at the first operation.

Then there are those cases of sliding hernia (unusual and rare type) in which the protrusion is caused by the cecum or sigmoid being extraperitoneally. Such a condition can never be satisfactorily handled by any other method, since the problem is to develop a sling by a plastic repair of the peritoneum in such a way as to force the cecum or sigmoid to hang freely intraperitoneally rather than to slide downward post-peritoneally. I have seen three cases of recurrence in which a perfectly formed but never disturbed hernia sac was found. Apparently the patient had originally a bifid or pantaloon type of hernia, one leg of which had been left undisturbed. Such a thing could not happen when removing the sac from above. The only way for recurrence to take place in this operation is either for the wound to become infected, or for the suture material to fail to hold, or for too early absorption or tearing out incident to violent coughing, etc.

The saccular conception, while correct for indirect hernia, does not take into consideration direct inguinal hernia. The latter has no orifice or true sac and is an acquired hernia, the problem of cure being much more difficult. It may be likened to

a blowout in a tire—a bulging of the peritoneum because of a defect in the abdominal wall, the repair of which is essentially a plastic operation or transplantation of the abdominal musculature, after having excised any excessive or redundant peritoneum, thus differing radically from the indirect type in which complete sac removal is the most essential step.

I have seen many hernial orifices which were so small that even a curved Kelly clamp, common in almost every operation, could not be passed to the bottom of the sac. How easy it would be for violent straining to force a tongue of ementum into this orifice for the first time, thus confirming the old belief that straining or heavy lifting causes a hernia—straining may force something into this orifice, but straining does not produce a normal healthy pouch of peritoneum. How many of you know of men in middle life, whose abdomens have either increased in size or their musculature relaxed, who present themselves for examination for hernia and tell you that they never had one until just a few days before that visit? Many of them have had pain in the inguinal region on excessive walking. I believe that many of these very small sacs mentioned above dilate gradually with increasing age and decreasing muscular tone, so that they can be diagnosed as hernia only when, through a loss of muscular support, the orifice is allowed to stretch and bowel or omentum come in.

Certainly the most frequent cause of recurrence is the incomplete removal of the sac at the first operation. It is surprising how often one finds the original orifice present when operating for recurrence when the Halsted or Bassini approach has been used originally. I have found it in one case operated upon by Dr. Halsted himself. Forty years elapsed between operations, and the silver wire used in repair was still holding. Certainly the rate of recurrence is low by any method, if done by good operators on thin subjects, but very few recurrences take place in these individuals. Let us take the case of a big man with an abdomen out of proportion to the rest of his anatomy, whose muscles are thick and in whom Mother Nature has not distributed the fat to suit the surgeon. Often have you seen the operator stop freeing the sac an inch or more below the orifice or base, because the peritoneum was tearing. Add to this situation an unsatisfactory anesthetic and you have the background for many recurrences. To sum it up—all of the original sac has not been removed. Does not this dimple or short pouch serve to encourage a recurrence? Certainly some of these cases have their recurrence before they leave the operating room. This is not true when operating according to the LaRoque method, when all of the sac and adjacent peritoneum is excised. The operation was designed to reduce the 9 per cent to 12 per cent recurrence which has resulted from wide application of the older methods.

From the literature it is obvious that surgeons in general have been more impressed with the necessity for complete removal of the sac than was true a few years ago. By this method all of the sac including the orifice and the adjacent redundant peritoneum is easily removed with lessened danger of trauma to bladder and spermatic cord. It should reduce our rate of recurrence and I am sure that it does.

The appendix is removed when operating for right hernia in all but the very old patients. Of course, there is an occasional case in which it cannot be done. In a few of these where it seems especially desirable to remove the appendix I have done a second muscle splitting, operating through the original wound opening. In most instances the appendix is or can be removed just as satisfactorily as when operating for appendicitis alone. It has been said that to combine the two operations is poor technique. I am yet to see a complication or wound infection develop after this procedure, and I feel that the objections are more apparent than real. Its use in strangulated hernia is obvious—the incarcerated bowel is subjected to less trauma and resections can be done most satisfactorily through the same incision.

To summarize, the advantages are:

1. The easy removal of the entire sac with its orifice and excessive adjacent peritoneum, with resultant high peritoneal suture.

2. Its obvious use in loculated sacs and in sliding herniae.

3. The lessened danger of injury and less trauma to the cord and bladder.

4. Incarcerated bowel is more easily released, and resections can be done through the same incision thoroughly satisfactorily.

5. The appendix is removed routinely when operating for right herniae.

CARCINOMA CORPORIS UTERI.*

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Carcinoma of the body of the uterus belongs to a group of cancers known as adenocarcinoma (Healy[1]). This type of malignant lesion arises from the glandular elements of the endometrium, an histologic anlage which distinguishes it from the cervical cancers which are of the epidermoid or squamous cell type.

It is not my purpose to burden you with an academic discussion of corpus cancer or a statistical study of the incidence of corpus cancer, its relative frequency in relation to cervical cancer or its percentage of five-year or ten-year cures. Rather, I would like to present some of the more practical aspects of the problems dealing with endometrial cancer with some emphasis on the pathological physiology of the endometrium as a possible anlage or precursor to the development of this type of malignancy and direct a few remarks on the diagnosis and treatment.

We, of course, are still hunting for the cause of cancers of all types. Here and there a definite step is taken and progress made toward the better understanding of the factors inherent in an individual which single him or her out as good soil for the growth of a malignancy. Much work has been done in the past few years on the influence of various hormones, particularly the estrogenic hormones on cellular activity and epithelial proliferation. A very common and highly active epithelial response to such estrogen influence is seen in endometrial hyperplasia, particularly the cystic degenerative type which is often called the Swiss cheese type, due to the histologic pattern formed by the stroma and large dilated glands. Until recent years, most authors have denied any relationship between endometrial hyperplasia and corpus cancer. Burch[2] has stated that he has never seen the two conditions associated in the same patient nor has he ever seen hyperplasia as a forerunner to carcinoma. Some months ago Novak and Yui[3] reported interesting observations on the possible relationship between endometrial hyperplasia and corpus cancer, offering the hyperplasia as evidence of excessive estrogen influence which might also be a factor in the production of cancer. That such a causal relationship between these two conditions may exist has possibilities, particularly when we remember the predisposing influences on the development of cancer of such lesions as cervical leukoplakia, gastric ulcer and Schimmelbusch's disease of the breast. There is much evidence today that there is probably some sort of relationship between endometrial hyperplasia and corpus cancer, that the one may precede the other and that cancer may actually develop from a pre-existing hyperplasia, particularly of the cystic, degenerative type, which depends on excessive quantities of estrogen for its development. Whether this is purely a coincidental coexistence of the two conditions or cause-effect remains to be proved. Certainly we frequently see endometrial hyperplasia showing such bizarre cell metaplasia and hyperplasia with evidence of marked epithelial activity, and proliferation as evidenced by numerous abnormal mitoses, to cause us to wonder if the next step in its development might be malignant change. Due to the high incidence of endometrial hyperplasia and the frequency with which we see it in clinical gynecology, its possible etiological role in the formation of cancer becomes of importance to us all. This is particularly true as our present day conservative treatment of hyperplasia in young women often fails to arrest bleeding for any length of time, and we are likely to ascribe an early recurrence of uterine bleeding to the hyperplasia, when as a matter of fact we might be dealing either with a combined lesion or a definite carcinoma which has arisen from the pre-existing hyperplasia.

Another interesting endocrine situation is the frequent occurrence of fibromyomata and corpus cancer. Norris and Vogt[4] report that 20.8 per cent of their cases of cancer of the body of the uterus were associated with fibromyoma. Just what may be the etiological relationship between fibromyomata and corpus cancer is not clear but that there is a possible common endocrine cause for these conditions has been shown by many workers who have observed an increased incidence in corpus cancer in patients

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known to have fibromyomata. Because of this frequent association of benign and malignant condition, it is important for the surgeon at the time of supra-vaginal hysterectomy for fibroids to inspect the interior of the uterus immediately upon removal for the presence of malignancy. If a malignant lesion is found, then the surgeon should remove both ovaries, tubes and the cervix at once.

Recently we have had under our care a woman whose clinical course exemplifies some of the points brought out in this discussion. She first was seen complaining of uterine bleeding of four months' duration. Curettage at this time showed a typical endometrial hyperplasia of the cystic, degenerative or Swiss cheese type, with very marked cellular activity, as evidenced by numerous mitoses and large swollen epithelial cells in the glandular epithelium. Following curettage she was free from bleeding for one month and then started again. Curettage one month later revealed an adenocarcinoma of the body, grade 1, or according to Ewing's classification, papillary adenoma malignum. In the sections made at this time one could see areas of benign hyperplasia adjoining definite areas of papillary adenocarcinoma in one low power field. Such a case is of practical importance as it emphasizes the need for careful histologic study of the whole specimen removed by diagnostic curettage and not as is too often the case a small piece or two of tissue which may not represent the important sections of endometrium to be studied.

Every surgeon should be his own pathologist, familiar with gross and microscopic changes in tissue and cells which are the criteria of impending or already existing malignancy. The surgeon must think in terms of pathology. Pratt[5] has emphasized that in the study of endometrial pathology all material obtained at diagnostic curettage should be imbedded and carefully scrutinized by the pathologist after permanent sections have been made. Frozen sections of endometrium are not adequate and, though they may enable one to make the diagnosis in isolated cases, the routine use of the frozen section technique in handling endometrium, particularly when one is searching for obscure pathology, is not advised. It is much better to wait for a paraffin or other permanent section which can be furnished in a few hours, thus enabling the pathologist to study carefully all the tissue obtained. Multiple gynecologic operations in women bleeding abnormally should be delayed until proper pathologic study of the endometrium has been made and a report rendered. In our clinic any suspicious bleeding is investigated before further operation is attempted, even though it may be necessary to prolong hospitalization a day or so or require a second hospitalization. Such a study will save an occasional major procedure which may be actually harmful in the face of a definite malignancy such as the Watkins' interposition operation for cystocele and prolapse, for instance in the presence of carcinoma.

If we expect to make any headway in prevention and treatment of cancer, we must be prepared to make earlier and better diagnoses than we have in the past. Bleeding is recognized as the most common symptom of cancer of the uterine body but there are many other conditions which cause bleeding from the endometrium which may confuse the diagnostician. One we have discussed already and have pointed out that there may be a causal relationship between this common cause of uterine bleeding and cancer. We do know now that they occur simultaneously in the same uterus and that we cannot rest from the search for cancer merely because we have found hyperplasia. Also, we must look with suspicion on any recurrence of bleeding in a case of hyperplasia, whether treated ultra conservatively, by curettage alone, or by a combination of curettage and conservative radium therapy. We feel that in the face of any abnormal uterine bleeding, the burden of proof rests on the surgeon to prove that it is not due to cancer and the surgeon must be ready to continue his search for cancer until it has been definitely ruled out by the pathologist. Such a study must be conducted in any type of obscure uterine bleeding in which there is no palpable or visual evidence of pathology. Curettage for diagnostic purposes should be one of our most common procedures. If practiced routinely, it will often reveal an early malignancy of the body which would otherwise be overlooked.

The early diagnosis of corpus cancer depends upon first the patient presenting herself for a study of any abnormal discharge, second thorough and careful study on the part of the surgeon of the patient generally and her endometrium in particular, and third the establishment of a close and intimate association between the surgeon and pathologist or, better still, adequate training in pathology for the surgical specialties so that the surgeon can study his own pathologic material.

The treatment of corpus cancer offers somewhat less of a problem than that of other types of genital cancer but there is still no routine in which these cases can be handled. Inasmuch as this type of cancer is usually confined to the uterine body, the five-year cure rate is higher than that for cervical cancer. Healy reports a cure rate of about 54 per cent. Stacy[9] noted that the largest number of patients that died in the first three years after operation died from local recurrence of the disease in the pelvis, which may mean either local extension before operation or spill at the time of operation. Glandular types of carcinoma have in the past been considered to be relatively radio-resistant, that is, they are not so amenable to destruction by radiation therapy as the epidermoid typers. That this is not altogether true has been shown by Healy,[6] Burman,[7] and Smith,[8] all of whom report regression of corpus cancer after radiation therapy. This being true, and in view of the rather high percentage of local recurrence after radical operation alone as noted by Stacy, there seems to be a definite field for radiation therapy in the treatment of this type of malignancy. However, unlike carcinoma of the cervix, endometrial carcinoma is essentially a surgical disease and, whenever possible, should be treated surgically. Norris and Dunne[10] believe all cases should be operated by radical panhysterectomy with bilateral salpingo-oophorectomy, followed by deep roentgen therapy. Certain inoperable cases must be treated by radiation therapy alone. In Healy's clinic at Memorial the feeling is that probably the best results are obtained by a combination of preoperative radium, radical operation, and postoperative roentgen therapy. In our clinic the average operable case of corpus cancer would receive an intracavitary application of from 3,000 to 4,000 mgh. of radium. The manner of placement and size of the applications of the radium, of course, must vary with each case but in general 50 or 60 mg. are placed in the cavity for eighty or sixty hours, being removed each twenty-four hours for cleaning and reapplication. Six to eight weeks following the radium therapy the patient is hospitalized and a panhysterectomy with bilateral salpingo-oophorectomy is done. We wait six to eight weeks to allow maximum benefit from the radium therapy and also to allow the radium reaction to subside. Three to five weeks later she is started on a course of deep roentgen therapy, the average course consisting of 8,000 to 10,000 R over a period of three weeks to one month. In specimens removed at operation under such regime we have found complete subsidence of the cancer from the radium alone. Such a regimen we hope will increase the five-year cure rate by prevention of the local recurrence which, as Stacy has shown, caused so many deaths within the first three years of the follow-up period.

These brief remarks concerning one of the difficult problems of gynecology indicate that there is much work to be done before we can feel satisfied with the progress in our fight against corpus cancer. Earlier diagnosis which depends on cooperation between patient, surgeon and pathologist should and will reduce the high mortality from this disease if the surgeon, pathologist and radiologist cooperate in the treatment. Certain endocrine factors which may influence the production of corpus cancer probably are also responsible for co-existing benign conditions, the presence of which may divert our attention to such an extent the more serious pathology will be neglected. Any irregular uterine bleeding must be traced to its source. The study of such bleeding leads through the fields of benign conditions to those which are malignant, so the study of such bleeding should never stop short of absolute knowledge that corpus cancer is not present. This can usually be done by the routine careful histologic study, by a competent pathologist, of all curettings removed from the uterus. Once the diagnosis is made, rigorous treatment is mandatory. In our hands this has best been accomplished by a cycle composed of preoperative, intracavitary radiation of from 3,000 to 4,000 mgh. of radium, followed by complete panhysterectomy, with removal of both tubes and ovaries six to eight weeks later. Finally, about three to four weeks postoperatively, a complete course of deep roentgen therapy is instituted with a contemplated one of 8,000 to 10,000 R. It is hoped that in the not too far distant future more standardized procedures will be evolved which will offer a better prognosis for the patient with early and moderately early corpus cancer, a disease, the very nature of which should yield a high five-year salvage if intelligently studied and treated.

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EXANTHEM SUBITUM.

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The name exanthem subitum was proposed by Veeder and Hemplemann[1] in 1921 for a disease which apparently occurs almost exclusively in infancy and early childhood. Zahorsky is credited with the original description of this disease as an entity. In 1910[2] he used the term roseola infantilis, and in a subsequent paper[3] he referred to the disease as roseola infantum. As both of these terms had been used rather indiscriminately by earlier writers, Veeder and Hemplemann thought a new name, which in itself was descriptive of the most striking symptom, would be more appropriate. Since their report was published, the name exanthem subitum has been generally used. Following their paper, several others by different authors appeared within a year or so, which indicated that the disease was wide spread both in this country and abroad. Little seems to have been discovered about this disease since it was first described, and in recent years there have been only a few articles concerning it. Up to the present time the etiology and mode of dissemination are both unknown.

Exanthem subitum seems to be an endemic disease which may occur at any time of the year. Cases have been reported in children up to fourteen years of age, but most observers agree that it is primarily a disease of infancy. The oldest patient in my series was three and one-half years of age. Because most of the patients are too young to discuss their symptoms, little is known of the subjective discomfort they experience. Objectively, the physical findings are slight in proportion to the fretfulness and fever usually observed.

In ordinary pediatric practice the diagnosis is rarely made even tentatively before the third day, and usually is not made positively until the temperature falls about the fourth day and the rash appears.

There are no laboratory tests that are diagnostic. Examination of the blood is of limited value, because the changes due to exanthem subitum, namely leukopenia with a relative lymphocytosis, also occur in other acute infections which present more or less similar symptoms. This is especially true of certain "grippal" infections, probably virus in nature, which appear in mild epidemics throughout the year.

In order to clarify my impressions of this disease, I have analyzed fifty-eight cases which occurred in my practice during the past few years. Data have been sought relative to the following points: age, sex, date, type of onset, duration and variation of temperature, irritability, appearance of pharynx, nodular involvement, symptoms, complications, and onset of rash. Since these data were obtained from brief records made on home visits, they are naturally not complete. Nevertheless, a fair picture can be drawn from a study of these records which should reveal the features of interest to the clinician.

TABLE I

Age	1—6 mos.	6—12 mos.	12—18 mos.	18—24 mos.	24—40 mos.
	4	18	22	8	6

Age.—Table I shows the age of fifty-eight patients, divided for convenience into groups of six months. Reference to this table reveals that forty-four patients of this series were between six and eighteen months of age. Four were below six months and fourteen were above eighteen months. Of this later group one was thirty months old, and the two oldest were forty months each.

Table II represents the number of cases occurring in each month of the six and three-quarters year period. Reference to this table shows that the cases occurred every month in the year with the exception of November. No conclusions can be drawn

from such a small series except that the disease probably will appear every year, and may occur at any season.

TABLE II

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1930	3	2	2		1	2						3	13
1931	1	2		3				1	1	2		1	11
1932			1	1	1			2		1			6
1933	2		1		2							3	8
1934					2	3		3					8
1935			2					1				1	4
1936					3	2	1		2				8
Total	6	4	6	4	9	7	1	7	3	3	0	8	58

Type of Onset. Analysis of the case records shows that the onset was abrupt in forty-five cases, gradual in one, and preceded by symptoms of acute naso-pharyngitis in thirteen. Closer analysis of the cases preceded by symptoms of naso-pharyngitis reveals that there was no uniformity in the duration or severity of these symptoms and creates the distinct impression that these symptoms were due to concurrent infections, and were not related to exanthem subitum. In practically every case when naso-pharyngitis was observed at the first examination, or had been observed previously by the parents, the onset of exanthem subitum was marked by a sudden rise of temperature and increased irritability. Taking these facts into consideration, it seems safe to say that exanthem subitum itself comes on abruptly and without obvious prodromata.

Duration of Fever. As well as can be determined, the febrile phase continued for from three to four days in twenty-three cases, and for four days in thirty-one cases. In only one case did the fever exist as long as six days, and in that case the continuation of the fever was obviously caused by complicating bronchitis and otitis media.

Variation in Fever. Records were made of the temperature at the time of the visits and, in a good many instances, notes were made concerning the temperature recorded by the mother or nurse. All that can be said definitely is that forty-six of the cases had temperatures between 102 and 104 plus during the illness. In four cases the temperature apparently did not go over 101 plus. Temperature of 104 or more were recorded in thirteen cases, and two patients had temperatures of 105—106 associated with rather severe convulsions. The impression gained from the study of these records is that the temperature varies each day, and that fairly high temperatures are of common occurrence.

Irritability. That irritability is one of the striking symptoms of this disease is obvious from the fact that most of the records have some reference to the child being cross and fussy. Quite often the irritability and fever were the only definite symptoms noted by the attendants. In two cases, as referred to above, convulsions occurred. The cause of this irritability is hard to determine as the patients are rarely old enough to describe their feelings. The two children over three years of age complained of headache, stomach-ache, pains in the legs, etc. Many of the patients by their behavior suggested sore throat, or earache. In only a few instances was there enough objective evidence of inflammation of the middle ear to substantiate the impression that earache actually was the cause of the crying. The irritability often persisted for two or three days after the rash appeared, though in other respects the patient seemed to be almost well.

Appearance of the Pharynx. The examination of the pharynx did not reveal any particular abnormalities peculiar to exanthem subitum. In twenty-nine cases the pharynx was described as slightly red and in fifteen instances small cryptic exudates, resembling a mild follicular tonsillitis, were seen. In thirteen cases a few small papular elevations were observed on the anterior pillars or soft palate, and in four instances these papules seemed superficially ulcerated. Unless there were a complicating catarrhal infection very little mucus was observed. The absence of any lesions resembling Koplik's spots helps to differentiate exanthem subitum from measles.

Onset of Rash. The onset of the rash, except in rare instances where some complication was present, generally coincided with the fall of temperature. In practically every case the rash began either toward the end of the fourth day or the beginning of the fifth. This rash resembles the beginning rash of measles. The lesions are macular, or very slightly papular, and are usually of a lighter red than the typical measles eruption. The rash occurs chiefly on the face and trunk but is usually present to a certain extent on the extremities. The lesions tend to

fade and reappear over a period of thirty-six to forty-eight hours. This peculiarity may be dependent on the cooling of the skin and subsequent warmth after bathing or changing the clothing, etc. The rash disappears without leaving any stains in the skin and without desquamation. Occasionally a suggestion of the forthcoming rash appears in the skin about the chin or over the chest on the third day, but at this stage it cannot accurately be described as a rash.

Nodular Involvement. It seems very probable that a careful search for slight involvement of the sub-occipital, post-auricular, and post-cervical nodes, was not made in the earlier cases of this series. Nevertheless, slight enlargement of sub-occipital nodes was recorded in nineteen instances, and similar enlargements of the post-auricular and post-cervical nodes were recorded in twenty-four and twenty-seven cases respectively. The nodes beneath the tonsils were slightly enlarged in eight instances. In regard to the nodular involvement, this disease somewhat resembles German measles, though as a rule the nodes are not as large and do not seem to be as tender as they are in the typical case of German measles. A routine examination of the lymph nodes will often reveal a slight increase in size as the disease progresses. This observation which I have made a good many times in the later cases of this series leads me to think that slight swelling of the sub-occipital and post-auricular nodes is a characteristic feature of exanthem subitum.

Symptoms. The characteristic symptoms of exanthem subitum appear to be fever, irritability, a duration of four to five days, and the appearance of the rash after the final fall of temperature. In addition to these symptoms a slight cough was recorded in twenty-three cases. This cough was never distressing and occurred as a rule for only one or two days during the course of the disease. Vomiting was recorded in nine cases. Thirteen of the patients had loose stools, usually with a little mucus, which appeared for one or two days. Slight coryza was recorded five times. The few children who were old enough to talk complained of pains in their legs, head, and abdomen.

Complications. Exanthem subitum *per se* seems to be singularly free from complications. Slight catarrhal otitis media was observed in fifteen cases and in one case an otologist incised the drums before the true diagnosis was made. This operation was followed by slight if any discharge. In another case, complicated apparently by a preceding sinus infection and bronchitis, the drums ruptured spontaneously. This infant had had within a period of two or three months previously a severe respiratory infection accompanied by a purulent otitis media which had persisted for about three weeks. A slight conjunctivitis was recorded in three cases but in at least one of these the patient had recently been exposed to "pink eye". Examination of the urine from a good many of these patients revealed nothing abnormal except in one case which had a temperature of 106 with convulsions. In this patient's urine a very slight trace of albumin and a few scattered red blood cells were found. Uric Acid crystals were found quite often.

Etiology and Transmission. There were no data in my records that cast any light on the causative factor of this disease, or the way it is transmitted. None of the parents volunteered any history of exposure to other cases, and those questioned generally denied that their child had been exposed. Only two of my cases occurred in the same family in the same year and these came three and a half months apart. Nevertheless, the whole clinical picture suggests a virus disease of specific type which rarely affects individuals beyond the first three years of life. If older persons are affected their symptoms are atypical and consequently unrecognizable.

Treatment. From the description given above, it is obvious that the treatment must be symptomatic. If the patient has had a preceding naso-pharyngitis, a non-irritating shrinking solution such as ephedrine in normal saline appeared to be of value. Aspirin tends to lower the fever and make the child more comfortable. One of the barbiturates was frequently employed for the needed sedative effect. Five per cent phenol in glycerin was prescribed when otitis media was present. Paracentesis is not indicated unless there is an accompanying naso-pharyngitis and the examination of the drums suggests the presence of pus. If exanthem subitum is suspected, watchful waiting for a day or so may prevent a useless operation.

In conclusion, it may be said that exanthem subitum is a definite disease entity which occurs in recognizable form almost entirely in infancy. It is not usually a severe illness, but the fever and irritability often create considerable apprehension in the minds of the parents.

Due to the paucity of physical findings the physician is generally unable to make a positive diagnosis before the rash appears.

A detailed study of fifty-eight cases, which brings out the salient features of the disease, is presented.

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OLIGOSEPTIC TREATMENT OF EYE INFECTION.

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The term "oligosepsis" was introduced by me (1) to designate by this term any chemotherapy directed against the virulence of pathogenic microorganisms with the aim of reducing their infectious ability without necessarily killing them, the bacteria primarily. It was based on the experience of Much (2) that harmless parasities can be made extremely virulent by treatment with acids, and on my own experiences (3) that in actual infection, pathogenic microorganisms can be made harmless by restoring the acid base balance in the infected area. This appears to be possible: (a) by hydrotherapeutic procedures designed to produce sweating; (b) by antiketogenic diet; (c) by application of powdered sodium bicarbonate or of soap lather as buffers in infections of the skin; (d) by application of protein buffers in infections of mucous membranes. As my own experience has shown, the oligosepsis produced in this way was the most harmless and the most proficient way of treating acute infections.

The further development of these ideas has led me to the evaluation of the buffer properties of soap lather in oligoseptic treatment of the infections of the eye. The present day knowledge of the chemical properties of soap is given in the "Ullman'sche Enzyklopaedie der technischen Chemie". As this states, due to the fact that the fatty acids are very weak acids dissolving in water into extremely foaming solutions, very little electrolysis can be elicited in these solutions. These solutions belong to the so-called colloidal electrolytes. The cation of the solution is the ion of the alkali metal; the anions are not only the simple fatty acids, but also a compound formation having a great quantity of electrical charges and formed by a considerable amount of connected undissociated soap molescules. Simple fatty acid anions could be elicited in weaker solutions; however n/2 solutions contain only colloidal electrolytes. An increase of the concentration converts even the undissociated soap completely into the colloidal shape. This compound formation of ion micelle (McBain) is highly salvatized. However this salvatization decreases with the increase of the concentration which then results in an increase of the conductivity. Contrary to previous statements, very little electrolysis can be elicited in soap solutions and the OH-ions concentration is only formed in solutions of n/3000 to n/300; it is strongest in the salts of the high molecular fatty acids. The concentration of alkali ions is so little that, according to latest statements, the alkali action of soap when used for washing can be entirely ignored.

This infinitesimal degree of soap solution ionization seems to explain the buffer action of soap lather when applied to infected areas of the skin; it also seems to explain the obvious buffer like action of soap lather in wet media and especially in the orbital cavity.

Probably there is no person in the world who has not at least once in his life gotten some soap in his eyes. As careful as one may be, some time it is bound to happen. When it happens the carelessness of the evil doer causes a painful sensation in the eye which, according to common experience, does not last very long; after a couple of minutes, the pain disappears. Having had a traumatic injury to my right cornea and eyeball in the winter of 1937, which was associated with subconjunctival bleeding and a very extensive reactive conjunctivitis, I decided to try out in self experiment the oligoseptic and antiphlogistic action of soap lather. After having suffered all night the extremely painful sensation in the right eye, I

decided to test out the action of soap. As expected the application of soap lather to the eye caused a considerable increase of the pain caused by the trauma. However this pain eased after several minutes, and then I realized that my right eye which had been closed since the day before had opened spontaneously. There was a marked increase of the injection of the conjunctival capillaries; however, it was not the redness of an inflammation but rather the livid redness of an irritation. After about half an hour this livid redness disappeared, leaving the bright red spot at the cornea, which was caused by the subconjunctival bleeding. I repeated the treatment the next morning and it resulted in a complete recovery. Since that time I have had the opportunity to corroborate this experience in numerous work accidents with the same results.

The next step was to find out whether a conjunctivitis or keratitis due to infection can be influenced in the same way. There have been several cases of simple acute conjunctivitis or keratitis which have been subjected by me to oligoseptic treatment with soap buffer and which resulted in a recovery of the patients. The conjunctiva would clear up in about half an hour and no pathological symptoms could be noted afterwards. However, in cases where the infection had persisted for more than one day, the objective symptoms could not be removed by a single treatment and a daily application of the buffer for several days was necessary. The same progress was observed in several cases of blepharoconjunctivitis which, as known, is a very stubborn condition. But even the blepharoconjunctivitis, as my own experience has shown, could be improved considerably and even cured by systematic treatment with the buffer colloid. In cases with foreign body in the conjunctiva or the cornea, the foreign body was removed under aseptic precautions and oligoseptic treatment with soap lather applied. The reaction of hordeola to oligosepsis depended upon the stage of the development. In the beginning hordeola a single treatment was sufficient to check the development; abscessed hordeola had to be punctured, the pus removed and the infection checked by oligosepsis.

A considerable amount of stubbornness has been exhibited by a case of ophthalmia neonatorum. The case involved a premature, underdeveloped and considerably undernourished baby girl. The accoucheur, according to the parents' statement, had neglected to apply the silver nitrate solution to the baby's eyes after her birth and, since the third day after the birth, a marked ophthalmoblennorrhea was present. The baby was cyanotic and both conjunctival sacs were filled with pus, both eyelids pasted together. Both eyes were washed out with soap and water and then soap lather applied, which, as expected, caused a considerable amount of pain. However, after several minutes the baby opened her eyes and kept them open for several hours. Her face expressed satisfaction, which probably suggests that the subjective symptoms of the conjunctival irritation had been removed by the oligoseptic application at once. After several hours the pus secretion started again and the baby was found the next morning with both eyes closed and the conjunctival sacs and eye corners containing pus. The oligoseptic treatment was repeated thereafter every morning for six weeks and has resulted in a complete recovery of the patient without any remaining injury to her eyes.

All these experiences seem to prove that oligosepsis in the form of local application of soap lather buffer to infected eyes is the most harmless and most proficient way of treating acute infections of the eye. It can be successfully applied in chronic infections and seems to be helpful even in ophthalmia neonatorum.

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NEO-ARSPHENAMINE IN HERPES ZOSTER—CASE REPORTS.*

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Herpes zoster is an acute inflammatory disease of the skin characterized by the appearance of vesicles, occurring upon an erythematous base, along the course of one or more of the peripheral sensory nerves. The site of predilection is the thoracic, lumbar, brachial and supra-orbital regions.

The vesicles are from grape-seed to green pea in size, tend to form in groups or patches and contain a clear watery fluid. The lesions develop in successive groups for several days, then tend to dry into crusts and after about ten days begin to disappear, leaving areas of hyperemia or pigmentation. As a rule the eruption is unilateral and the disease seldom recurs.

The pain, of a neuralgic character, may be severe or moderate. In the elderly, though the eruption may be slight, there is often much pain, and this may continue long after the eruption has left. The average duration of the disorder is from ten days to three weeks.

Pathology: The disease is generally considered to be an acute infection of the posterior root, gasserian or geniculate ganglia, with secondary skin lesions.[1] The most frequent finding is an interstitial inflammation of the ganglionic centers, less often a descending neuritis.[2] The cutaneous changes are inflammatory in the epidermis and corium, the corium showing a vascular dilatation throughout, with often inflammatory changes in the vessel walls.

Edema is most marked in the upper layers of the corium, the roof of the vesicle being composed of the horny or granular layer; the floor, of the lower rete or papillary layer of the corium.

Infection, traumatism and chemical poisons are supposed to be the chief causes. No specific microorganism has been isolated.

Rosenal and Oftedal[3] produced the lesion in animals by injecting streptococci isolated from the tonsils and pyorrheal pockets of patients suffering from herpes zoster.

Fenton[4] believes that it is due to a virus which enters by the nose and becomes localized in the ectodermal structures and tissues of the sensory nervous system. It may travel from the cortex to the periphery, inoculating the structures along which it travels, which seem to serve as a culture medium.

It seems fairly established that the same virus that causes herpes zoster causes chicken-pox. Since 1888[4] when Bokay suggested the relationship of these two diseases, instances of their association in the same family, or close contacts, are reported.

Kundratitz[4] has found that the fluid taken from the vesicles of a typical zoster eruption, when inoculated into the skin of children, produced a generalized eruption similar to chicken-pox.

Herpes zoster occurs not infrequently in epidemics associated with influenza and chicken-pox. Sachs[5] reported an epidemic of sixty-nine cases in Breslau in 1901. It occurs also with such infections as malaria, eclampsia, meningitis and syphilis. Cases are often recorded following gun-shot wounds, spinal injections and an occasional case following anti-luetic treatment.

Therapy: Since the etiology is questionable, treatment is entirely directed toward the relief of pain and prevention of scarring. For the relief of pain the usual analgesics of aspirin, phenacetin and pyramidon have been used. In severe cases, the opiates have been resorted to. Of the many local applications, lead and opium wash and calamine lotion are among the best.

Howard Fox[6] used paraffin melted 114 degrees and applied it as a spray with good results in seventeen cases.

Sidlick,[1] in 1930, reported very successful results from pituitrin injections in a series of fifty-four cases. Niles, in 1932, also reported results from this drug.

Ruggles,[1] in 1931, reported excellent results in fifteen cases with the intravenous administration of sodium iodide.

Sutton and Stelwagon[1] have used a mild galvanic current, the positive electrode being placed over the affected ganglia with fair results.

Freude,[1] in 1931, resorted to paravertebral novocaine in several cases.

H. Foerster[7] found X-ray therapy over the spinal region beneficial.

*From the Department of Dermatology and Syphilology, Medical College of Virginia.
Read before the Staff of the Medical College of Virginia, December 8, 1938.

Jones and Alden[8] reported good results in 1936 from the use of auto-hemotherapy.

The many measures advocated prove the lack of each to meet the full requirements of a satisfactory treatment. To this list I wish to add the administration of neoarsphenamine, so far as I know, first suggested by J. N. Roussel, of New Orleans. Three case reports follow.

CASE REPORTS

Case 1.—D.H.M., white, male, thirty-five years of age, was seen in the office April 5, 1938, complaining of a moderately severe pain confined to left side of face, radiating back to the neck, with associated vesicular eruption and swelling about the eye on that side. Patient stated that on Wednesday, six days previous, he noticed a vesicular rash on the forehead with associated moderate swelling about the left eye. Two days later he developed severe pain, radiating back to neck, accompanied by rash confined to that side. He had been using hot boric acid compresses, which had given only slight relief. He was given .3 gram neoarsphenamine at time of visit and advised to continue compresses. He was seen again on April 9 and was considered nearly well at that time.

Case 2.—Miss L.S., white, female student, twenty years of age, was seen in the office on January 28, 1938, complaining of a vesicular rash over the left supraorbital area, with associated pain and itching. Patient stated, beginning Sunday, five days previously, she noted an itching sensation over the left eye area, followed in a few hours by a rash spreading upward from the left eye over the left side of the scalp. Examination revealed a typical herpes zoster with vesicular eruption extending from the upper eye-lid over the distribution of the supra-orbital nerve and left side of scalp, slightly painful on pressure. Since patient was returning to school in Williamsburg, it was recommended that .3 gram neoarsphenamine be given there by a local physician. This was done and the atending physician reported as follows:—"Results were nothing less than dramatic, as patient stated she had no pain in a few hours following administration of the drug; the lesions soon began to heal and were entirely gone in about four days."

Case 3.—R.H., colored, female, age forty-five years, was seen in the skin clinic at the Medical College on March 7, 1938, and complained of a continuous, aching pain along the fourth and fifth inter-costal spaces of the left chest region, more severe on inspiration. Patient stated that on February 28, she noticed a moderately severe aching pain just below the heart, radiating to the back. On examination the patient had a typical herpes zoster, involving the fifth inter-costal nerve, with pronounced vesicular eruption over this area. She was given .3 gram neoarsphenamine, and lead and opium wash was applied locally. She was seen again on March 10 and given another .3 gram neoarsphenamine. On March 15, she was discharged, the pain and lesions having disappeared. It is interesting to note in this case the patient was under anti-luetic therapy but was receiving bismuth at the time of onset.

To date, four other patients have been treated with neoarsphenamine and the results, as a whole, have been very dramatic, relief of pain and eruption being noted in a few hours to a maximum of one week, with the exception of one case. The condition in this instance was bilateral, involving the posterior cervical nerves. This patient was cleared of the eruption in three days, but was not free of pain for about two weeks.

With full consciousness this is adding one more remedy to a long list, none of them being superlative, I still feel the results in some of the cases have so far excelled those treated by other measures as to make it worthy of trial.

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17 East Grace Street.

AN ELECTRIC INCUBATOR FOR PREMATURE INFANTS.*

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Various methods of keeping premature infants warm are in common use today. A few of these, mentioned in order of increasing cost are: Hot water bags, a light cradle covering the bassinet, an electrically heated bassinet, a bassinet surrounded by a hot water jacket (The Hess Bed), the Castle "Humidicrib" (an enclosed bed with its atmosphere controlled as to temperature and humidity), and, in some large institutions, an air-conditioned room.

The incubator described here was built according to our plans by a local furniture manufacturer. Although relatively inexpensive it has proven to be thoroughly dependable and much more satisfactory than the hot water bags and light cradles previously in use. Several additional incubators have since been constructed, so that one or more is available in each of the four local hospitals.

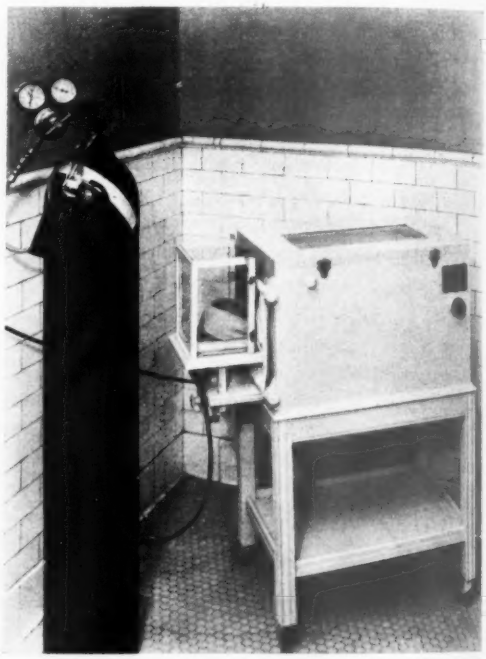
DESCRIPTION

The incubator consists of a wooden box in which the infant's body lies. The head extends outside of the box into a small uncovered chamber which may be used when needed as an open top oxygen tent (Burgess[1]). In the incubator is an electric heating element made up of three special light bulbs which lie in rosette formation on the floor of the box beneath the infant's tray. The current supplying these bulbs is turned on and off by a thermostat which is sufficiently accurate to maintain the temperature within a range of 1°F. We have used thermostat settings from 90° to 98° for infants of various ages and weights.

The top of the box is hinged and has a window in the center, below which is suspended a thermometer. Because of the hinged top of the box and the open top head chamber it is possible to feed and bathe the baby and change his clothes without removing him from the incubator.

In order that the apparatus may be used for babies of different sizes and in order to permit different positions of the baby, almost every part of the incubator is made adjustable; the head chamber can be raised or lowered; the tray on which the baby lies can be raised or lowered at either end (for instance, the head may be lowered to allow mucus to run out of the mouth).

Just outside the head end of the box are two vertical curtains made of soft cotton flannel. The infant's neck lies between these two loosely hung curtains which are then adjusted about the neck to keep the heat in the box. A cap or hood is used on the head of small premature infants to avoid chilling.



An electric incubator for premature infants.

The head chamber has a wooden floor covered with a cushion. Its three transparent sides are made of Dupont Plastacele. The top and the side next to the incubator are both open. When oxygen is indicated, the latter side of the chamber is made air-tight by covering it with a piece of rubber sheeting which is fitted about the infant's neck. The sheeting is held in place by two clamps of special design. Oxygen is introduced through a perforated copper tube that lies on the floor under the baby's nose. An outside connection is provided for this tube. The oxygen is moistened by passage through a wash bottle. We

*The incubator described was exhibited at the sixty-ninth annual session of the Medical Society of Virginia in Danville, October 4-6, 1938.

have found that a flow of two to four liters per minute is sufficient to maintain a concentration of from 50-60 per cent oxygen at the level of the infant's nose. To control the oxygen concentration we test it frequently with the simple instrument designed by Emerson.[2]

DISCUSSION OF DESIGN

By keeping the infant's head outside of the heated box three objects are accomplished:

1. The baby is enabled to breathe the freely circulating air of the room. This air is naturally at a lower temperature (75°-85°) than the air inside the box. Also the room air may be kept moderately well humidified by the use of wet towels placed on the radiator or by an electric vaporizer. We have been able to raise the humidity of a steam heated room in winter from the dangerously low figure of 15-20 per cent saturation to 45-60 per cent. The importance of the proper humidity in the inspired air of premature infants is emphasized by Blackfan and Yaglou.[3] It must be admitted that even 60 per cent saturation is below the optimum for very small premature infants.

2. The second advantage in keeping the head outside is that less harm would be done the baby in case of accidental over-heating. The body can stand a high temperature better than the brain.

3. A third advantage is in the ease with which the baby's face can be kept constantly under observation for cyanosis, vomiting, or distress from any cause.

SOURCE OF IDEA FOR INCUBATOR

We wish to emphasize the point that this incubator is not original either in principle or in details of construction. It represents a combination of features that have been used by others for a number of years. However, this exact incubator is not available commercially as far as we know, nor is it in use in any other institution.

The idea arose originally from use of a Drinker-Collins infant respirator-incubator[4] which is a modification of the Drinker respirator designed by Murphy[5] for the resuscitation of asphyxiated newborn infants. A heating element and thermostat were added to the original respirator so that the infant could be kept warm during resuscitation. In the Childrens' Hospital, Boston, two of the respirator-incubators were frequently used for premature infants as incubators only. When used in the air-conditioned premature rooms, they were found to be very satisfactory.

We have added the open top oxygen tent, which again, of course, is not original.

SPECIFICATIONS

The incubator is constructed of kiln dried cherry wood. All joints are mortised.

Thermostat: Insertion type No. IT-4 made by Julien P. Friez Co., Baltimore, Md.

Heating bulbs: Westinghouse No. T-10, 25 watt tubular lamp.

Top window and sides of the oxygen tent are made of Dupont "Plastacele, c-7504, Thickness 0.060".

Above the bulbs is a sheet of asbestos board. The tray is made of enameled sheet iron.

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619 Church Street.

THE ERYTHROCYTE SEDIMENTATION PHENOMENON—A REVIEW.*

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HISTORY

Like many modern medical tests and observations the sedimentation phenomenon had its genesis in the minds of the ancients.[1] We refer to the theory of the four humors. Galen, when he described "crusta phlogistica", recognized that blood on standing would separate into two layers, a serum and a clot, and that the blood of diseased persons separated into several layers before clotting could take place. The uppermost yellowish fluid, the serum, was known as "cholera" or yellow bile. Next, the grayish white layer of fibrin in the upper portion of the clot, was

*Read before Staff of McGuire Clinic, Richmond, Va., November 15, 1938.

known as "phlegma" or mucus. The bright layer of red cells was known as "sanguis," and the dark red layer of red cells without oxygen was known as "melancholia" or "black bile". This distinct separation of the "humors" was thought by the Greeks to be the cause of ill health. Later the purpose of treatment in general was to rid the body of the "phlegma" layer of the "crusta inflammatoria".

However, not until 1921 was any significant information derived from the erythrocyte sedimentation rate. Fahraeus of Sweden,[1] in search of an easy test for pregnancy, found that the rate was not only increased in this but in many diseases also. Since that time the test has been simplified, its use broadened, and the rationale more clearly but by no means completely understood.

TECHNIQUE

Many techniques have been used, some giving results in time per standard distance of settling (Linzenmeier); others the distance per standard time of settling (Westergren). Cutler's method (a modification of the latter) which is widely accepted because of its simplicity is done as follows:

Specially designed tubes of one cc. capacity graduated into 50 mm. divisions with 0.0 at the one cc. level are used. Nine-tenths cc. of blood from vein mixed with one-tenth cc. of 3 per cent sodium citrate are placed in the tube. Readings of the level of settling are made according to Cutler's original article[2] every five minutes for an hour. For practical purpose, however, we have found fifteen minute readings accurate enough. These readings forming a curve are posted on a special chart. Normal sedimentation rate for men is 8 mm. drop and for women 10 mm. drop in an hour.

PHYSIOLOGY

In the excellent article of Cutler, Park and Herr,[3] it is shown that the plasma is responsible for the settling and not the number, size, shape or other characteristics of the erythrocyte. Cells of rapidly settling blood are transferred to "slow" plasma, and the sedimentation is slow, while if cells from blood of slow settling time are transferred to "fast" plasma their sedimentation rate becomes rapid. They also observed that plasma which caused *rouleaux* formation of erythrocytes caused an increase in the settling rate.

There are three phases to the settling phenomenon. The first stage is that of aggregation which lasts from five to thirty minutes; the second is the stage of true settling; and the third is the stage of packing. The last stage is the only one affected by anemia. This knowledge emphasizes the importance of plotting the readings at fractions of the hour rather than only at its termination as some have advocated. The first three to five minutes of the curve represents true sedimentation; the last fifteen to twenty minutes represents packing which depends on number of erythrocytes.

There are certain physio-chemical variants that alter the sedimentation rate, which must be constantly borne in mind in the clinical evaluation of this test:[4]

1. An increase of the fibrinogen content of the plasma causes an increase in the sedimentation rate.

2. Electrolytes, alkalies, acids or salts irrespective of ionization inhibit sedimentation.

3. The normal increase of sedimentation in females is explained by the increase of globulin content of the blood.

4. Fever *per se* (not taking into account the cause of the fever) has no influence on the sedimentation rate.

5. The existence of anemia causes an increased sedimentation index by the effect of the low number of erythrocytes on the packing or last phase of the phenomenon.

6. There are certain factors in the technique of the test which influence the rate. If the test is carried out in a cool atmosphere the rate will be slowed; if in an atmosphere warmer than body temperature the rate will be increased. For practical purposes room temperatures from seventy to eighty degrees is satisfactory for performing the test. If the sedimentation tube is less than 2 mm. in diameter capillary attraction will alter the true sedimentation rate. Deviation of sedimentation tube from the perpendicular increases the rate.

7. There is no correlation of sedimentation rate with the total leucocyte count, the per cent of neutrophils, or the Schilling shift.

8. Lecithin and albumin retard the rate; cholesterol increases it slightly.[5]

9. Marked hyperglycemia, i.e., over 200 mm., slows the sedimentation rate. High total lipoids increase the rate.[6]

Likewise there are certain clinical variants which affect the sedimentation rate:

1. Pregnancy from third month to term is the only physiological process that is accompanied by rapid sedimentation.[2]

2. Sedimentation rate of the female is slightly more rapid normally than the male.[4]

3. The sedimentation rate is slightly decreased in the first month of life and increased in age.

4. Menstruation causes little or no change in the rate.

5. Time of day, ingestion of food, and exercise do not affect the rate.

CLINICAL APPLICATION

Now, in general, we find the sedimentation rate is an index of the extent or speed of tissue destruction. It is increased in all general infections such as the exanthemata, pneumonia, rheumatic fever, tuberculosis and syphilis. It is increased in septicemia, acute coronary thrombosis and in pelvic inflammations. It is increased in neoplastic disease—particularly in the metastatic stages. It is increased in localized acute infections as in abscess formation, acute sinusitis, mastoiditis, and in some chronic localized infections depending on the extent.[2] It is increased in acute intoxication such as lead and arsenic poisoning and in thyrotoxicosis. It is normal in simple catarrhal inflammations as acute appendicitis, colitis, rhinitis, and bronchitis, and in presence of low grade foci of infection such as apical tooth abscess and chronic tonsillitis. Chronic ulceration such as gastric and duodenal ulcer produce no change in the sedimentation rate. There is no change in functional disease, allergic states, benign tumors, and most skin diseases.

The sedimentation rate is obviously not specific but there are certain differentials in diagnosis in which it is of definite value.[7] Coronary thrombosis gives a rapid rate while angina pectoris produces no change in it. Pelvic inflammatory disease produces a rapid sedimentation while acute appendicitis causes no change.[8] Ninety-one per cent of cases of atrophic arthritis gave increased sedimentation rate, whereas hypertrophic arthritis rarely causes any change of itself.

The sedimentation rate is a valuable indicator of the progress of rheumatic fever.[9] Clifton states that in this disease without carditis the sedimentation rate may be increased as long as two weeks following the subsidence of all clinical manifestations of the disease.

At Johns Hopkins Diagnostic Clinic, of 444 cases with a normal sedimentation rate only eight had occult disease. Two had chronic nephritis with marked renal insufficiency; one had pulmonary tuberculosis and hay-fever; one amebiasis with one degree fever; and one fever of undertermined origin. One had acute pyelitis with hydronephrosis, another had carcinoma of the descending colon, and the last pyelitis and renal insufficiency. The last three had been misinterpreted because of an over correction for anemia.

From the Henry Phipps Institute of Philadelphia, 177 of 328 individuals who after routine examination had been considered healthy or suffering from a trivial ailment had increased sedimentation rates. Re-examination of these revealed non-tuberculous basal infiltration of the lungs in ninety-six; apical tuberculosis in thirty-two; positive Wassermann in thirty-five; pelvic inflammatory disease in five; and possible carcinoma of the lung in one. In only eight was no abnormality found. Hence this test is a valuable caution sign to indicate disease which because of its obscure nature may have been overlooked.

Bethell[10] *et al*, in a recent review of the literature on blood, finds the sedimentation rate of value in the detection of disease, measurement of activity and progress of diseases as tuberculosis, salpingitis, rheumatic fever, coronary thrombosis, and acute febrile illnesses, and, thirdly, in differential diagnosis.

The sedimentation test, although affected by a host of variables, is of value diagnostically in at least helping to limit the problem of a given case to those conditions which are known to give increased sedimentation rate or to those which do not. An increased sedimentation rate is never a normal finding to be disregarded lightly and always justifies a search for its cause, but, on the other hand, a normal sedimentation rate does not always give assurance of the absence of disease, and it is important that the clinician remember this. We recently observed at autopsy a metastatic carcinoma of the stomach and liver in a patient whose sedimentation rate was 8 mm., the normal rate. It is of value prognostically in that it is a sensitive index of the presence of tissue destruction—hence, the progress of disease. It is a simple test requiring little equipment and a minimum of training and expense. Remembering its

limitations, we find it a most valuable adjunct to laboratory diagnosis.

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1000 West Grace Street.

OPERATIVE OBSTETRICS—SOME REMARKS.*

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Some realization of the scope of the subject assigned to me in this symposium may be imagined from the fact that recently Munro Kerr has written a most interesting volume of over 800 pages, the title of which is "Operative Obstetrics". Obviously my paper can consist of only a few random remarks. Discussing a topic of this nature before a society such as ours, the obstetrician is apt to, and frequently does, fall into one of two pitfalls. Either he will demonstrate some procedure or theory that only the specialist can visualize and perform under ideal hospital conditions, or he will preach extreme conservatism only to be surprised by his colleagues the next morning doing the very things he had so soundly condemned the evening before. Not wishing to be caught in either of these traps, I thought, perhaps, if we brought up for discussion some of the indications for the various operative procedures, which sometimes are necessary, it may be of mutual benefit.

Nature, in devising the means of propagation, has fashioned a marvelous mechanism. It is for this reason we are prone to forget that occasionally Nature can make mistakes and bring disaster to the mother or child. Kerr says that the accoucheur "* * * must never presume that a parturition is normal. He must not be content until he has satisfied himself that it is not abnormal".

*Read before the South Piedmont Medical Society, South Boston, Va., November 22, 1938.

INDUCTION OF LABOR

A casual review of my case histories startled me by the large number of patients who had elevated blood pressures at their six weeks and six months post-partum examinations. In some of them the prepartum blood pressure had been normal and there had been no toxic symptoms. Most of them, however, had had slight to marked elevations of blood pressure antepartum. Toxemia of pregnancy, we believe, is a vascular phenomenon caused by some agent or agents insulting the vascular system. At first we might call the disturbance a functional disorder, but repeated insults will soon make the affection pathological. What we are leading up to is this: If, in the latter months of pregnancy, there is an elevation of the blood pressure with a continuing rise that does not respond to treatment, regardless of the urinary findings, we would recommend induction of labor at the earliest favorable moment. This type of case rarely develops into the eclamptic type if the elevation is slow and drawn out. And because the mother has no outstanding symptoms, the physician is often held in ridicule if his advice is not

followed and normal parturition follows at term. However, the layman does not look five or ten years hence. He does not realize that irreparable damage to the vascular-renal system may occur. Vascular-renal damage in these cases is inevitable and Hallum has shown that retinal damage from spastic arterioles also is to be greatly feared. If ophthalmic examination shows marked retinal changes, a favorable moment for induction should not be waited for.

Eclampsia is now treated conservatively, and rightly so, but when the patient is under control we should induce labor, preferably by gentle means: rupture of the membranes. McCord, in a side remark, once said, "Providence has been good in helping you with the eclampsia; why tempt her further?"

Induction of labor for contracted pelvis has been practiced in the British Empire for some time. The procedure, although it is still prevalent, is not used as much as formerly; in this and other countries, save Britian, only in isolated instances is it used. As many patients with contracted pelves deliver normally, it does not seem quite fair to subject the fetus to such a handicap as a premature delivery., If, after a trial labor at term, delivery from below seems hazardous, Cesarean section can be done.

As for the method of induction, here, as in all the procedures in obstetrics, circumstances must decide the method to be used. If maternal conditions demand immediate evacuation of the uterus, section would seem to be the wise procedure—fulminating toxemia and placenta previa, for example. Fetal conditions demanding section would be toxicity in an elderly primipara, or, in case the baby is at a high premium, prolapse of the cord before or at the onset of labor in a primipara (Marr).

When haste is not necessary we can use less radical means. The author's method, which has failed in only a few instances, is as follows: Castor oil, ounces two and one-half. As the bowels begin to move, a hot, high, soap-suds enema is given. While this is being expelled, two minims of pituitrin are injected. (Many authorities recommend intranasal pituitrin.) The pituitrin is repeated at half hour intervals until contractions ensue or five doses have been given. You notice quinine is not used. It probably is of no benefit and since the investigations of Taylor and the researches of West we can assume there is a potential danger of deafness for the child from its administration. If the fetus is in a vertex presentation and the manipulation is easy the membranes are ruptured.

FORCEPS

A house officer of mine, David Pecker, once asked me a most instructive question: "Can you practice obstetrics by the clock?" At that time we were basing our indications for forceps interference in labor on two hours with the cervix completely dilated, or one hour with the head on the perineum. Now we interfere when there is definite lack of progress, be it one-half or six hours. A head that is passing over the perineum a little more with each contraction does not need interference; however, if there is not rhythmic progression, perhaps it is better, both for the baby's and the mother's sake, to give assistance. Keeping a check on the fetal heart will give some indication of the condition of the fetus. Of course, the fetal heart beat slows with each contraction, but if the rate of the fetal heart goes down below a hundred and *remains that low,* it is much safer for the fetus if labor be terminated. A sign, which I do not recall having seen described, which gives us a clue as to the state of the fetal circulation is this: Press on the baby's scalp. If the resultant blanched area immediately becomes discolored when the finger is removed and it cannot be distinguished from the surrounding parts, we can be assured that the circulation is all right.

Conservatism in obstetrics is hard to define. If it means waiting and waiting for the natural forces of labor until the mother is exhausted or the baby has almost perished, then I am not for it. Perhaps the bad results from forceps that Stander published some years ago were because of the policy of waiting until delivery seemed impossible. But if conservatism means a deliberate judgment of the maternal powers and interference as soon as these powers fail, or interference when we think we can safely make things easier for the mother without harming her unborn child, then I am a conservative. That seems to me the conservative view-point.

A posterior position is the most constant cause or indication for the use of forceps. When the diagnosis is made, at once we think of operative delivery. This is probably because of the theory that the abnormal mechanism is in itself responsible for the delay in labor. The head is usually extended. Time, that healer of many things, if allowed a chance, will cause flexion, which will facilitate rotation and give us a

normal delivery in over 80 per cent of the cases. Disproportion is the chief cause, we think, of the failure to rotate in the remaining per cent. In the generally contracted pelvis in which the head comes down extended in a military attitude, very seldom does the vertex rotate; indeed, in some pelves—the anthropoid type of Caldwell, for example—it is perhaps better to deliver the baby face to pubes despite the resultant damage to the perineum. I have also done this when the ischial spines have been so prominent that damage to the vaginal walls was feared if rotation should be attempted.

How long to wait for rotation of the head after complete dilation of the cervix can not be definitely stated. The condition of the fetus, the character of the labor, the thinning out of the lower uterine segment, the condition of the patient—all these are determining factors. When any one of these factors is at fault, delivery should be consummated. One thing is certain, if the rotation stops at the transverse position and remains so, waiting will very seldom be of any use as we will not be rewarded by a spontaneous or easy delivery. It is better to terminate labor while the vertex is not impacted.

Numerous maneuvers have been devised for the handling of the occiput-posterior position. Most of them have the fault that they are safe only in the hands of the skillful obstetrician. Despite DeLee's warning, I think the Scanzoni maneuver would be the safest in the hands of the general practitioner. With careful application of the blades, and cautious, gentle rotation, very little damage should be done. A little practice with a rolled up pillow case substituting as a head, using the wife's cupped hands as a pelvis, will teach one how to rotate the forceps and keep the toes of the blades from cutting the vaginal walls. One word of warning. *Be sure the fetal head is well flexed.*

In the case of deep transverse arrest we cannot agree with Kerr that it would be better that the head be crushed rather than attempt a forceps delivery. By use of the Kielland or the Barton forceps often we have been rewarded with a happy result. These maneuvers, though, should be attempted only by the specialist under hospital conditions. For the man who is not familiar with these maneuvers, although it may be heresy to suggest it, why not turn the head back to the former posterior position and do a Scanzoni operation, or deliver the head with the occiput posterior? This suggestion does not apply to the head that descends in the so-called military attitude and remains there. That is a formidable complication and should be referred to the obstetric expert.

You notice I have not advocated manual rotation. Too often in doing this the operator pushes the head out of the mid pelvis, and, in so doing, afterwards has trouble applying the forceps. If the head is manually rotated to the anterior position and held there while uterine contractions force it down to engagement, all right. Potter recommends version on all posterior positions. It has been our experience that the membranes have been ruptured for some time, rendering the maneuver rather dangerous.

A last word about forceps. A forceps operation is an operation in the true sense of the word. It is not, as a colleague once told me, "merely putting on the 'hooks' and pulling". It demands anesthesia. The operator should have an assistant. Surgical technique is essential. Simply because the delivery is in the home is no reason for forgetting surgical principles. Hertzler in an amusing way shows us how to do this. The first principle in forceps is diagnosis. Often we are surprised at the ease in delivering a patient when the correct diagnosis is made, after having had a difficult time because of a faulty determination of the position. The second principle is application. A mere pelvic application is surely a way into difficulties. The forceps should be applied to the head in such a way that the blades are over the malar bones. The third is traction. This should be made, not straight out or up, as is so often done, but the curve of the pelvis should be followed. A forceps operation should be a deliberate procedure, thought out ahead of time and done with finesse and judgment as in any other surgical procedure. The reason Miller, Plass, McGill, and others have written numerous papers deprecating the use of forceps is because too often the "operation" is merely "putting on the hooks".

BREECH

Great truths are sometimes expressed in succint phrases. Doctor Ben Gray, when I once excitedly telephoned him saying the feet of the baby of his patient were presenting at the vulva, answered ,"So what?" He came down immediately, certainly, but he had taught me a very valuable lesson. It requires considerable poise to allow a breech case to deliver spontaneously as far as the navel without doing anything. But interference in a breech labor con-

tributes largely to the fetal mortality in these presentations—8 to 15 per cent.

There is a tendency in some of the larger obstetrical centres to interfere and deliver the baby when it is in a breech presentation (frank, complete, or footling) as soon as the cervix is fully dilated. Or if a frank breech is presenting, it has been recommended that it be broken up as soon as the diagnosis is made. We cannot subscribe to this. We believe with Arnold, something else should be done—washing the hands, straightening the drapes of the patient, talking to the onlookers, instructing the anesthetist, looking over the instruments set out, finding some fault with anything, doing anything but touching the baby. We believe in keeping our hands anywhere but on the fetus in an uncomplicated breech until the umbilicus is showing. We think, though, that an episiotomy often aids when there is delay on the perineum. In the primipara we advise routine episiotomy because, if there should be some difficulty in delivering the arms, easiness of approach and maneuver is facilitated.

In all the discussions of breech presentation reviewed by the author, external version has been advised, with no exception, when the so-called malpresentation has been diagnosed. This used to be our opinion. Many times, though, we have attempted such an external version and failed, or we have completed the maneuver only to find the former presentation at the next weekly visit. When the dangers of correction of the malpresentation, premature separation of the placenta, involvement of the cord in a dangerous position, and extreme pain are taken into consideration, we wonder if, judging from our own limited experience, external version in cases of breech presentation is the panacea we hoped it would be. And X-rays recently have shown to the author, when radiograms have been taken on suspicion, spontaneous conversion from the breach to the vertex presentation sometime occurs.

At present it is our practice to make an attempt at conversion by external rotation. If there is pain, or if the fetal heart rate changes, we desist at once. When labor begins, a careful pelvic examination is made. Any case that has a questionable pelvis is a likely candidate for Caesarean section. In multipara the history of the previous labor is most helpful.

VERSION

It was in 1550 that Pare described the advantages of podalic version. Long before this, however, the maneuver had been known and had been used. From then until now it has been, as Kerr says, "the sheet anchor of the family practitioner faced with an obstetric difficulty". At the beginning of this century it was falling into an undeserved desuetude because of the operations of Caesarean section and forceps. Then came Potter, of Buffalo. Potter, with the exception of Pare, has probably contributed more to the art of version than any one man. Yet he has contributed profoundly to the maternal and fetal mortality and morbidity in this country (Douglass). This paradox, we explain, from the popularization of the maneuver by Potter with the result that numerous obstetric attendants perform the operation for spurious indications, sometimes forgetting the contraindications. Also, not being as adept as the master, their fetal mortality must necessarily rise.

Version still holds a very valuable place in the obstetric armamentarium. For the practitioner far removed from hospitals and consultation it is a valuable procedure, even though his fetal mortality is often high. The procedure of turning, carefully and knowingly done, probably affects the infant but little. It is the breech extraction that usually is done afterwards that raises the fetal mortality to about 10 per cent. For the tyro the percentage is much higher. The prime factor, we think, causing the elevated mortality and morbidity is the substitution of haste for art while the operation is being done. We must thank Potter for teaching us this truth.

The chief risk to the mother is a ruptured uterus, particularly so if the lower uterine segment is thinned out; also, cervical lacerations are common.

In those cases having a transverse presentation, more accurately speaking oblique, version is always indicated. If the cervix is not fully dilated, extraction need not necessarily be done immediately if the fetus is in no danger. When the fetus *is* in danger, unless the patient is in a hospital under competent obstetric care, it is better to sacrifice the babe rather than attempt to save it by pulling it through an incompletely dilated cervix. A neglected transverse presentation is a real obstetric emergency and should be referred to the specialist.

Potter recommends version for all cases of posterior position. We would modify that and use it for those cases which have not engaged and which would otherwise demand a high forceps operation.

Other indications may be malpresentation, prolapse of the cord, prolapse of fetal extremities, and

placenta previa. The last indication, though, we hesitate to endorse. There are other ways of handling this complication which seem more reasonable.

DeLee says version is indicated when rapid delivery is necessary in the interest of the mother or babe when forceps are not applicable. He surely doesn't mean this to be as ruthless as it sounds.

Version is not to be taken lightly. Invasion of the uterus increases the chance of maternal morbidity. If extraction through an incompletely dilated cervix is done, mutilating and debilitating lacerations may occur.

Our remarks have been rambling and perhaps over long. If, however, they should provoke a discussion that will contribute to our knowledge of obstetric care and benefit our patients no apology need be made.

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NECESSITY OF ROUTINE RECTAL EXAMINATIONS—CASE REPORTS.*

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It cannot be stressed too often that a physical examination is not complete without digital palpation of the rectum. This warning also applies to pelvic examination in married female patients and in unmarried ones when indicated. All of us realize the necessity of such routine examinations and some have had the importance of them forcefully brought to our attention at one time or another. In spite of all this, however, we still fail routinely to use these procedures, with the result that pathology goes unrecognized, possibly to a state of incurability, or our patient seeks the advice of another physician for the relief of his or her symptoms.

Graham,[1] in a recent paper read before the Medical Society of Virginia, pointed out the importance of digital rectal examination and sigmoidoscopic examinations in all individuals complaining of changes in bowel habits, rectal bleeding, or "piles", in order to rule out the possibility of carcinoma. In his consecutive series of thirty-two cases of carcinoma of the rectum, only two were not demonstrated by digital palpation or sigmoidoscopic examination. This fact speaks more convincingly for the routine use of these diagnostic procedures than thousands of words of exhortation. Changes in the menstrual routine should also call for routine pelvic and speculum examination, the possibility of carcinoma in the genital tract being constantly borne in mind. In contrast to carcinoma of the rectum or the genital tract, many relatively benign conditions in these regions may express themselves with symptoms which are referred to other parts of the body. Abdominal pain or backache may be due to such pathology; also various types of lower extremity pain, edema of the legs or varicose veins.

It is not generally appreciated that in some cases of seminal vesiculitis[2] symptoms and signs may be referred to the abdomen; and in those instances with involvement on the right side, the picture may closely simulate appendicitis. Gonorrhoea spreading from the posterior urethra or epididymis is the usual cause of this pathology but tuberculosis or sustained and suppressed sexual excitement may be the etiological factor. When acute gonorrhoea is the cause of the pathology, there is often a co-existing epididymitis, and the fact that the abdominal symptoms and signs are referred is easily recognized. Young,[3] in a review of 218 cases of gonorrhoeal vesiculitis, however, found epididymitis present at the same time in only 142 of them. The real diagnostic problem is in those cases in which the vesiculitis is caused by sustained or suppressed sexual excitement, and, unless a digital rectal examination is routinely done, some cases will be unnecessarily exposed to operation. Rectal tenderness is elicited in many cases of appendicitis but in the cases of seminal vesiculitis one or both organs are palpated, extending upward from the prostate tender and indurated. When the diagnosis is suspected, a careful history will elicit pain radiating from the right lower quadrant down through the inguinal region along the course of the vas deferens into the scrotum and associated with testicular neuralgia. The maximum point of tenderness is usually not located at McBurney's point, it most often being closer to the midline at the same level.

The following cases illustrate the diagnostic prob-

*Read before the Richmond Academy of Medicine, October 25, 1938.

lem in two cases of seminal vesiculitis that had abdominal symptoms:

Case 1.—History.—A. G., a man, aged thirty-one, was seen April 8, 1938, at the request of his family physician, with the possible diagnosis of subacute appendicitis co-existing with acute gonorrhoeal urethritis. The infection had been contracted three weeks before and for the past two weeks he had been under treatment by his family physician. Sulfanilamide and rest had been the therapeutic agents. One week before he was seen, dull pain had developed in the right lower quadrant without radiation. There had been no associated nausea, vomiting, or anorexia. He had been constipated throughout the illness but had had no pain in the rectum at the time of bowel movements, or symptoms referred to the epididymis.

Examination.—The temperature was 98.8 F. No blood work was done. There was moderately acute tenderness on deep pressure in the right lower quadrant just to the left of McBurney's point. No spasm or rebound tenderness was present. On rectal examination the right seminal vesicle was palpated tender and indurated and the abdominal pain was reproduced. On this basis a diagnosis of gonorrhoeal seminal vesiculitis was made. The abdominal pain ceased with additional sulfanilamide and intravenous calcium gluconate.

Case 2.—History.—A. H., a man, aged twenty-three, seen August 24, 1938, with a provisional diagnosis of appendicitis. Three days before he had developed general abdominal pain which shortly became localized in the right lower quadrant. He had been nauseated and had vomited several times the first day of pain. The pain had been dull in character and there had been marked soreness in the right lower quadrant associated with it. No history of gonorrhoea or genito-urinary symptoms was obtained. After the true nature of the pathology was known, close questioning elicited the fact that he had had testicular neuralgia off and on since the onset of the abdominal pain and also that this pain radiated down into the scrotum at times. He had been married three years but the marriage had not been fruitful.

Examination:—The temperature was 99 F. No blood work was done. Urinalysis was essentially negative. There was fairly acute tenderness just below McBurney's point with slight rebound tenderness and moderate spasm of the right rectus muscle. There was no tenderness about the testicle or epididymis. On rectal examination the right seminal vesicle was palpated and was tender. Palpation reproduced the abdominal pain. A careful check-up by an urologist failed to reveal any infection. The symptoms and signs cleared up with sexual and physical rest.

CONCLUSIONS

1. The necessity of routine rectal and pelvic examinations is stressed.

2. Seminal vesiculitis may simulate appendicitis and the true pathology may go unrecognized without rectal examination.

3. Two cases of seminal vesiculitis that presented the possibility of appendicitis are cited.

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CORONARY THROMBOSIS—FACTORS IN IMMEDIATE PROGNOSIS.*

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Recent reports on the mortality rate in coronary thrombosis would indicate that the prognosis is much more favorable today than it was several years ago. Statistics collected in different institutions are at variance, the percentage of deaths ranging, roughly, from 20 per cent to 70 per cent. Master,[1] in a study of 267 cases, reports a general mortality rate of 16.5 per cent. Bedford[2] states that in his experience there is a 25 per cent death rate. Cooksey[3] found a mortality percentage of 40 per cent in fifty-three cases. Levine,[4] reviewing 143 records, learned that 53 per cent died. Willius,[5] reporting on the largest series of cases, namely, 370, found a mortality rate of 51.6

*From the Medical Service of the Sinai Hospital of Baltimore.

per cent. Hochrein and Schneyer[6] studied 266 cases, and discovered a 71 per cent mortality.

Assuming that all of the cases surveyed were those of occlusion of one of the main branches of the coronary arteries, not to be confused with the so-called twig thromboses, or attacks of severe and prolonged angiospasm, it is difficult to comprehend the marked differences in mortality rates as observed in various clinics. This study was undertaken not only to learn the mortality incidence at this hospital, but also to determine some of the factors which might influence the prognosis. Prolongation of pain, leucocytosis, or elevation in temperature over a period of many days, are factors which are known to bear an evil significance. The sedimentation rate has not been used at this clinic for a sufficiently lengthy period to enable us to estimate its value in prognosticating the outcome of the disease.

During the years 1928-1935, inclusive, one hundred and forty-four cases of coronary thrombosis were admitted to this clinic. Of these, seventy-seven died during the period of hospitalization, affording a general mortality rate of 53 per cent.

Single Attacks. Master[7] states that the prognosis during the first episode of coronary thrombosis is considered very good, and that a patient usually does not die in his first attack. It has been asserted that 50 per cent of cases of coronary occlusion admitted to the average hospital have had previous attacks of thrombosis. Eighty per cent of the cases studied by Willius were seen during the first attack, and of these, 47.5 per cent died. In our 144 cases, 121 did not give a history of former thrombotic accidents. Of these, there were fifty-eight deaths, or a mortality rate of 48 per cent.

Multiple Attacks. Twenty-three patients (16 per cent) had had at least one previous episode. Of these, twenty-one, or 82 per cent died. In Willius's series, 17 per cent had had two attacks, and of these, 69.8 per cent died. There was a 75 per cent mortality in those patients who had experienced three attacks.

Sex. One hundred of the 144 cases were males (70 per cent), forty-four females (30 per cent). Of the 100 males, fifty-five died, resulting in a mortality rate of 55 per cent. In the case of the females, there were twenty-two deaths, or a 50 per cent mortality. Master found the ratio of men to women experiencing coronary thrombosis three or four to one. Willius found a seven to one ratio. In the latter's study, the death rate among female patients was higher than that among the males, 63 per cent as against 50 per cent.

Age Incidence. In five of the cases, the ages were not known. The age incidence by number and per cent of the total, and mortality percentage are given in Table I:

TABLE I

Decade	*Number of Cases*	*Per Cent*	*Mortality Percentage*
20-29	1	0.7	0.0
30-39	5	3.5	20.0
40-49	18	13.0	33.0
50-59	55	40.0	54.5
60-69	43	31.0	55.8
70-79	16	11.0	81.0
80-89	1	0.7	100.0

Early Bradycardia. Attempts to ascertain the exact time of onset of the attack showed that eighty-three cases were admitted to the hospital during the twenty-four hours after the first warning. Of these, thirty patients showed bradycardia (pulse rate of seventy or lower) during the first twenty-four hours (36 per cent incidence). Fourteen of the thirty cases who had early bradycardia died, resulting in a mortality percentage of 46.6. Fifty-three patients had a tachycardia during the first twenty-four hours, and of these, thirty-four, or 64.1 per cent, died.

Antecedent Factors in Females. It has often been said that coronary thrombosis occurs most often in women who have had hypertension or diabetes previously. Of our series of forty-four female patients, thirteen (30 per cent) had had antecedent hypertension; and thirteen (30 per cent) had diabetes mellitus. Three patients (7 per cent) had had both hypertension and diabetes. Levy and Boas,[8] in their study of coronary artery disease in females, found thirty-four cases of coronary thrombosis. Twenty-two (64.7 per cent) had hypertension. One had diabetes alone (2.9 per cent). Six had hypertension and diabetes (17.6 per cent).

Antecedent Hypertension. In twenty-nine of our cases, there had been definite hypertension prior to the coronary occlusion. Eleven of these patients died, the mortality percentage being thirty-eight.

Arrhythmias. Cardiac arrhythmias seemed to have little bearing on the prognosis. In the six instances of auricular fibrillation, there was a mortality rate of 50 per cent, as three of the six patients died. In two cases in which branch bundle block occurred, both patients recovered.

Complications Leading to Death. In thirty-six of

our cases, death might have been attributed to causes other than the coronary thrombosis itself. In some of these cases, the complication led to sudden death; in others, the prognosis was considered hopeless even though exitus was delayed by therapeutic measures. The incidence of serious complications is as follows:

Massive pulmonary infarcts	5
Uremia	8
Peritoneal abscess	1
Chronic nephritis	10
Multiple infarcts	1
Bronchopneumonia	4
Gangrene of legs due to emboli	1
Active pulmonary tuberculosis	1
Bronchiectasis	1
Cerebral emboli	2
Diabetic coma	2

Cardiovascular Causes of Death. In twenty-two cases (28.6 per cent), death was due to sudden left ventricular failure, with resulting pulmonary edema. In thirty of the seventy-seven deaths (39 per cent), shock or forward failure was the precipitating factor. In ten cases (13 per cent), there was a combination of backward and forward failure.

Day of Death. Of the seventy-seven cases in which death occurred, thirty-one died on the day of admission to the hospital. A total of forty-five succumbed within forty-eight hours, exitus occurring a state of shock or pulmonary edema, or a combination of the two. In two cases, death supervened shortly after admission, with diabetic come as the complicating factor. In those cases (ten) in which death ensued after the first two weeks of hospitalization, it was the result of some of the complications listed above.

CONCLUSIONS

As a result of this survey, we are forced to conclude that the prognosis in cases of coronary thrombosis is poor, particularly, of course, in those individuals who have had a previous attack. It must be remembered that the one hundred and forty-four cases studied were instances of occlusion of one of the main branches of the coronary arteries. Those cases in which the diagnosis of coronary artery thrombosis was not definite were not included in this report.

The proportion of men to women experiencing coronary occlusion is 2.3 to 1, rather than 4 to 7 to 1, as seen in other clinics. However, the sex of the patient seemed to have little bearing on the outcome. Incidence of attacks by age decades reveals that the greatest number of occlusions occur between the ages of fifty and seventy. Willius reports a 72 per cent incidence between these age limits. The mortality rate in the earlier decades is relatively low; between the ages of fifty and seventy it is about 55 per cent, and beyond the age of seventy it rises precipitously.

The occurrence of early bradycardia, that is, within the first twenty-four hours after the onset, seems to afford a good prognosis. Although we assumed a pulse rate of seventy or lower as the margin of bradycardia, it may be stated, in accordance with reports from other hospitals, that a pulse rate of eighty or lower is an index of a favorable prognosis.

Statistics in regard to antecedent factors in females indicate that most of our patients have had either hypertension or diabetes, or both.

Antecedent hypertension, if it has any bearing at all, denotes a satisfactory outcome, according to our experience in those cases in which a definite history of high blood pressure prior to the attack could be determined.

Fifty-eight per cent of those cases who died made their exitus within forty-eight hours after admission to the hospital, usually in shock, or in shock in association with left ventricular collapse.

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APPENDICITIS—ITS DIAGNOSIS AND TREATMENT.

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Since Dr. Reginald Fitz, of Boston, made this country appendicitis conscious in 1886, this disease has probably received more attention, caused more confusion, produced more deaths, and furnished more articles and revenue, than any other half dozen surgical diseases. One would think that any pathology so well portrayed in textbooks, and so frequently and completely presented in medical societies over such a long period of time, would, like malaria, smallpox, and typhoid, be on its way out as far as its mortality is concerned. Yet the death rate from this most common of surgical disorders is not being reduced in this country except in isolated localities.

In order to be brief it may be stated unreservedly that there are two reasons for this state of affairs, and only two—namely: purgation and delay. Ninety per cent of all patients dying of appendicitis have been purged.

It is hardly conceivable, yet there are doctors of medicine today who will prescribe a purgative for a pain in the abdomen and even repeat the prescription the following day, without knowing that his patient may have appendicitis, or else feel, though no one knows why, that all abdominal pains should be so treated. A large part of the laity also has the idea that a brisk purge is the cure for any ordinary abdominal pain, due to ascribing such up-sets to indiscretions of diet, and hoping it is nothing more serious.

There are several factors about the onset of appendicitis which, if borne in mind by the physician, should almost invariably stamp an attack of appendicitis for what it really is. These factors are found in the abdominal nerve supply of the solar plexus. All abdominal viscera derive their nerve supply from two main sources—the vagus and the sympathetic.

The vagus arises in the floor of the fourth ventricle, passes out of the skull through the jugular foramen, courses down the neck in the carotid sheath, goes through the thorax, giving off branches to the cardiac and pulmonary plexi, pierces the diaphragm and spreads out over the stomach, omentum, and probably other abdominal viscera, sending branches to the solar, renal, and splanchnic plexi.

The sympathetic consists of terminal branches supplying all of the abdominal viscera. These pass upward and are gathered into a congeries of filaments and ganglia known as the solar plexus. The great splanchnic nerves connect the solar plexus with the chains of sympathetic ganglia on each side of the spinal cord. These are connected with each other, and by both white and grey nerve fibers, with the anterior primary divisions of the spinal nerves and have their centers in the cord.

The sympathetic does not carry impulses of pain as such. Its function is purely motor and secretory. When a sympathetic center gets an impulse, it sends out a message setting up secretion or peristalsis, according to the center stimulated.

When the organism is functioning normally, this takes place without awakening consciousness. When, however, these impulses are excessive either in degree or kind, a different situation arises.

In case of an inflamed appendix, for instance, these impulses travel up the nerves that accompany the superior mesenteric vessels to the solar plexus. Here they part, some taking the pneumogastric route to the brain ,and the other part the splanchnic route to the sympathetic centers in the cord. Being an unusual impulse, it is radiated to an adjacent sensory center, and is referred by the extrinsic nerves of the body to a point on the abdomen that may be more or less removed from the focus of irritation. The brain apprehends pain, but interprets it as coming from the extrinsic sensory nerves, and not from the appendix.

As the solar plexus is a sort of pool for all abdominal impulses it would not seem strange if these messages occasionally experienced errors in transmission.

This is exactly what is thought to take place in the beginning of the average case of appendicitis.

An impulse from an inflamed appendix goes to the solar plexus. The stomach is accustomed to receiving most of these impulses. By habit it would seem, these impulses take the gastric route through the plexus to the cord, and, when referred, they are referred as coming from the stomach center.

This is why the primary pain of appendicitis always centers in the epigastrium or around the um-

bilicus. When, however, the inflammation becomes more severe and these impulses become more insistent they right themselves and seem to force their way through their proper channel. When this occurs the pain leaves the center of the abdomen and is shifted to the lower right quadrant.

This is known as the secondary pain of appendicitis.

The above, to some in this audience, may seem elementary. So do one's mistakes when viewed in retrospect. If harking back to first principles will prevent an occasional error, the effort is well undertaken.

In the average case of acute appendicitis the symptoms and signs are very definite. Its recognition depends upon four cardinal points, occurring in a definite sequence:

I. Primary pain—located in the epigastrium or around the umbilicus, later shifting to the lower right quadrant.

II. Nausea.

III. Temperature.

IV. Rigidity.

This sequence must be maintained. If nausea, fever, or rigidity precede the pain, the condition most probably is not appendicitis.

The primary pain of appendicitis is due to the early increased peristalsis which accompanies this disease.

When the stomach is irritated it strives to empty itself by increased activity. The pylorus is closed, peristalsis is set up, and nausea and vomiting take place.

These early impulses from the appendix that cause the pylorospasm, also close the ileocecal valve, blocking the contents of the small intestine that are hurled against it by this early increased peristalsis. Unable to pass, it stagnates, decomposes, and later in the disease causes gaseous distension.

The colon also receives this urge to activity and frequently empties itself; but after the lower bowel is once empty, constipation is complete.

This early pain is sharp and colicky in character and, with early bowel movement, may easily be mistaken for an ordinary stomach-ache, or food poisoning, and its true significance may be hidden until it settles in the lower right quadrant as a more or less constant ache. This settling of pain in the lower right quadrant is said to be constant, even in those cases of transposition of viscera where the appendix is on the left side.

There are many cases that apparently mark an exception to this rule; but in reality they do not. In cases of appendiceal abscess, where the parietal peritoneum is involved, the appendix is directly under the sensitive part. When the inflamed appendix touches the bladder, vesical symptoms may predominate; if it touches the gall-bladder, symptoms of cholecystitis may be present. When it rests on the genito-crural nerve, a perfect picture of renal colic may be in evidence. This is because the parietal peritoneum is irritated and, being richly supplied by sensory nerves, the pain is direct and not referred.

The nausea of appendicitis takes place early in the attack, and is quite different in cause and character from that seen later when peritonitis develops. It is evanescent and often quickly passes.

Temperature is always present at some time during an attack of appendicitis. It is a variable factor, however, and no reliance should be placed either upon its presence or absence. It may be absent or subnormal in gangrene or perforation, as well as in a case that is subsiding. The temperature is generally high in cases of marked suppuration, the pulse being elevated in proportion; but no reliance can be placed on either as an indicator of the state of inflammation.

The rigidity of appendicitis is purely a viscero-motor reflex, as described above. The tenderness over the appendiceal area is a viscero-sensory reflex, both being due to a stimulation of motor and sensory centers in the cord by unusual impulses coming from the appendix. Often when all other symptoms and signs are absent, deep seated tenderness in the lower right quadrant, whether felt externally or through the vagina or rectum may be elicited. When this is found following epigastric pain, it is almost pathognomonic of appendicitis.

To this evidence may be added leucocytosis which, however, is totally unreliable; chills, flexion of the right thigh, pinched expression of features, costal breathing, hyperesthesia of skin over the appendiceal area, and the general appearance of severe illness that has on short notice possessed the patient.

The differential diagnosis of appendicitis embraces almost every disease that can occur in the abdomen, as well as many that occur without. The more important ones are: ruptured corpus luteum, regional ileitis, mesenteric thrombosis, diverticulitis (Meckel's

and colonic), intestinal obstruction, salpingitis, pyelitis, perforating ulcers of the cecum and ascending colon, acute indigestion, typhoid fever, gastric and duodenal ulcer, carcinoma of colon, tubercular peritonitis, spermatic cord lesions, seminal vesiculitis, renal and peri-renal abscesses, pancreatitis, renal colic, hernias, tubal and ovarian diseases, plumbism, pleurisy and pneumonia, herpes zoster and hysteria. These constitute a few of the eighty odd diseases alleged to simulate appendicitis. Most of these are easy to eliminate by a careful history and examination. Some of them cannot be eliminated; but as they often indicate acute abdominal conditions of a surgical nature, too much time should not be lost in vain attempts at exact differentiation.

Osler long ago made the statement that at no time in its course is appendicitis a medical disease. There is no safe treatment for this disease except early operation,—the earlier the better. People rarely die of appendicitis. They die of its complications—gangrene, abscesses, septicemia, embolism, and peritonitis, produced solely by purgation, plus delay, or simply delay.

A word about chronic appendicitis. Whether anatomical findings or clinical speculations justify this differentiation may be debated; but therapeutic results seem to mark clearly this distinction. In cases of gross anatomical lesions, operative results are good in 94 per cent of the cases, while cures are effected in only 60 per cent of those showing only minor sclerotic change.

The symptoms said to accompany chronic appendicitis have been described as vague abdominal pain, pain on deep pressure over the appendiceal area, malaise, bilious attacks, slight icterus, hematemesis, dyspepsia, constipation, hyper- and hypo-chlorhydria, renal, vesical, and pulmonary disturbances; the latter, masked as asthma or tuberculosis, have been cured by appendectomy. The similarity in symptomatology of gastric and duodenal ulcer, cholecystitis, and chronic appendicitis is notorious. The best surgeons have operated for ulcer or cholecystitis, and completely cured the patient's symptoms by removing only a diseased appendix.

As stated above, the treatment of all forms of appendicitis is early operation. This goes for all the early complications of this disease. Remove the offending appendix, whether in abscess of diffuse peritonitis, if the condition of the pathology or patient permits. Do not risk a prolonged or traumatising operation in a case of organized abcess or diffuse peritonitis on a very ill patient.

The writer uses the grid-iron incision, ligates the appendix with chromic gut, carbolizes the stump, neutralizes it with alcohol and closes the wound with or without drainage, as pathology dictates. This is simple and effective. Subsequent treatment is morphine and fluids. The dictum for all post-operative cases should be—give them fluids and morphine, and let them rest. From a practical standpoint there is no such entity as post-operative treatment. If a case has been treated scientifically and sanely before operation, and isn't rendered moribund on the operating table, after operation the treatment is merely continued. The diabetic, tubercular, and nephritic continue their routine, the operation being only an interlude in the course of events. Any further treatment is purely symptomatic.

The same is true of peritonitis. The nature of the disease and treatment is not changed because the abdomen has been incised and a drain inserted. If the operation had not taken place the treatment would have been exactly the same. For this reason the writer has steadfastly adhered to the policy of giving his post-operative peritonitis cases practically nothing but salines with glucose and opiates, and water when tolerated. No food is allowed by mouth until bowel function is restored.

Intravenous administration is not used routinely, being reserved for the severely ill, or nauseated. Drains are used sparingly; as a rule, they are removed on the first post-operative day, unless left to produce a sinus down to irremovable necrotic tissue.

Ileus ordinarially is treated as peritonitis, described above. In mechanical ileus, an enterostomy generally produces brilliant results. In ileus of neurogenic origin it is harmful. In ileus from extended inflammation, it is largely futile. Stomach washings, and the indwelling duodenal tube are here probably superior to any other manipulations.

Prophylactic enterostomies at time of operation are seldom done. Nor is pituitrin, pitrescin, enemas, or any other form of intestinal stimulant given in any but the neurogenic type.

This paper is based on a total of 573 cases of acute and chronic appendicitis, abscesses and diffuse peritonitis.

There were a total of sixteen deaths—a mortality rate of 2.8 per cent.

In 380 cases of acute appendicitis there was one

death—a mortality rate of .26 per cent. Eighty-two cases of chronic appendicitis resulted in one death—a mortality rate of 1.22 per cent.

There were three deaths in forty-five cases of abcess—a rate of 6.67 per cent,—while sixty-five cases of diffuse peritonitis gave eleven deaths—a mortality rate of 16.09 per cent.

In conclusion, let it be recorded that no one cures peritonitis. Fortunate is the patient who has a surgeon who aids rather than hinders nature in her efforts to effect a cure. The first law of nature in inflammation is "rest".

We have seen above that in any gastro-intestinal injury the pylorus and the ileocecal valve is closed and the stomach emptied. This is nature's preparation for intestinal rest. This is the surgeon's cue. Two things promote this ideally: No food or medicine by mouth, and opiates to allay pain and peristalsis. When this line of treatment is adhered to, nature's efforts have been augmented.

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Miscellaneous

Report on Meeting of American Medical Association.

The annual meeting of the American Medical Association is always interesting, and the recent meeting in St. Louis, May 15-19, 1939, was no exception to this rule. The large Municipal Auditorium provided adequate space for housing the exhibits and also assembly halls for the meetings of many of the special sections.

The immensity of the exhibits, both commercial and scientific, was one of the outstanding features of the meeting. When one has undertaken to prepare even a small exhibit for a meeting of this type and realizes the work and expense connected with such presentation, the tremendous expense and hours of work required in preparing the hundreds of scientific exhibits become apparent. There was something pertaining to almost every field of medicine, and any physician, whether specialist or general practitioner, found much of interest. Drawings, X-ray films, moving picture presentations, practical demonstrations of all sorts, and lectures provided a never-ending source of information.

The demonstration of the rapid sectioning and staining of fresh tissue by Dr. B. F. Terry of Tacoma, Washington, was especially interesting to watch. He has presented his methods with modifications at almost every meeting of the Association during the past few years, and his enthusiasm in his work continues unbounded. Crowds of physicians were gathered around his booth at all times, watching the demonstration, taking notes, and otherwise familiarizing themselves with his methods. Such attention serves to illustrate the consciousness of the profession of the necessity for exact microscopic diagnosis.

Another interesting exhibit was that by Dr. Albert Behrend of Philadelphia on cerebral complications following surgical operation, the chief complication having resulted from cerebral anoxemia associated with general anesthesia. Although this complication is frequently thought to be the result of the employment of nitrous oxide anesthesia, half of Behrend's cases followed administration of ether.

Oxygen masks devised by Boothby, Lovelace, and Bulbulian were particularly well demonstrated, and everyone was impressed with the economy and efficiency of this method of administering oxygen.

I was able to attend only one session of the scientific program. At this meeting several subjects of interest were discussed. The treatment of peptic ulcer was again in evidence, and the general conclusion was that there was much to learn about therapy of this condition.

Another paper of special interest was "The Incidence and Results of Treatment in Subclinical Amebiasis", by Dr. Frank H. Connell (and Harry T. French) of Hanover, New Hampshire. In their study 3 per cent of all students entering Dartmouth College were found to have Endameba histolytica in the stool. Dr. Connell brought out the fact that although only 10 per cent of those infected had had significant symptoms, yet when ameba were eliminated from the stool by appropriate treatment, the general health of all the patients was greatly improved. He feels that the term, "healthy carrier", is a misnomer and that all patients harboring pathogenic ameba should have thorough treatment.

It would seem almost unnecessary for papers to be written on psychic factors in the production of

physical disability; yet a paper by Dr. Sidney A. Portis (and Jacob Kasanin) of Chicago on "Psychosomatic Factors Concerned in Recurrent Diarrhea", was enthusiastically received.

Dr. E. L. Tuohy of Duluth, Minnesota, called attention to the advisability of the intensive use of certain concentrated vitamins in the aged. His contention was that the slogan, "Men dig their graves with their teeth", needs rebuttal, and that restricted diets in patients of advanced age may be the unrecognized cause of many disabling symptoms. His paper was well illustrated by case reports.

A group of workers who remained in the background at the meeting were the delegates representing the various medical bodies throughout the nation. These men gave of their time and talent in an effort to solve the many social problems that confront American medicine today, and they deserve our gratitude and heartfelt thanks.

One of the pleasant features of a meeting as large as that of the American Medical Association is the opportunity for renewing old acquaintances and meeting some of the younger men who are taking their place in the advancement of medical science. In our critical moments we may accuse the American Medical Association of being nothing more than a big political organization; yet when one observes the volume of medical information that is brought together in one building, the scientific value of the work of this Association cannot be overestimated.

PORTER P. VINSON, M.D.

Richmond, Virginia,
May 23, 1939.

How Tumor Clinics May be Certified.

On February 16, 1939, the President of the Medical Society of Virginia appointed a Cancer Committee for the Society consisting of the following members: Dr. Edwin P. Lehman, Chairman, Dr. Richard P. Bell, Dr. I. A. Bigger, Dr. I. C. Harrison, Dr. Fred M. Hodges, Dr. Robert L. Payne, Dr. I. C. Riggin, and, *ex officio*, Dr. A. F. Robertson, Jr., and Dr. Hugh H. Trout. This Committee was formed to supervise the activities of organizations interested in the control of cancer in Virginia.

The Executive Committee of the Women's Field Army of the American Society for the Control of Cancer and the Virginia Cancer Foundation has agreed to spend funds for the care of indigent cancer patients only at institutions certified by this Committee as properly equipped and manned to give adequate treatment. It therefore became the duty of the Committee to fix standards under which certification may be possible. At a meeting of the Committee on June 1, 1939, the standards given below were adopted. It was voted (1) that the Committee recommend to the House of Delegates that these standards be adopted; (2) that they be published in the VIRGINIA MEDICAL MONTHLY; and (3) that through this publication all institutions in the State interested in qualifying be invited to present their credentials to the Committee.

The Committee recommends that cancer treatment at public expense be administered only at institutions which fulfill the following requirements:

PERSONNEL

The personnel of the Tumor Clinic shall consist of a director of surgery who has been certified by the American Board of Surgery and a director of radiology who has been certified by the American Board of Radiology. It is not essential that a pathologist be directly associated with the clinic, but evidence must be offered that the opinion of a pathologist certified by the American Board of Pathology is readily obtainable and is regularly obtained.

EQUIPMENT

The clinic must be associated with or have available a hospital registered by the American Medical Association and approved by the American College of Surgeons. There must also be available modern X-ray therapy apparatus of not less than 200,000 KV. It is not essential that radium be owned by the tumor clinic, but it should be available locally.

OPERATION

The Committee will furnish forms to each certificated clinic to be returned to the Committee for each case treated at the expense of public funds. These forms must contain written and signed surgical, radiological, and pathological opinion. Other details, such as the diagnosis, treatment, and result, will be included. If the Committee, on the basis of these reports, is not satisfied that the clinic is employing funds in a way to insure proper treatment to the patient, they will have data on which to withdraw certification.

It is requested that all groups desirous of qualifying under the above regulations submit promptly to the Chairman of the Committee evidence of their ability to meet the minimum requirements.

To qualified clinics, the Executive Committee of the Women's Field Army and the Virginia Cancer Foundation will direct indigent cancer cases for treatment at actual cost.

EDWIN P. LEHMAN, *Chairman,*
Cancer Committee,
Medical Society of Virginia.

Box 1596, University Station,
Charlottesville, Va.

Resolutions of Augusta County Medical Association Relative to the Care of the Medical Needy.

As a result of a questionnaire on The Study of Need and Supply of Medical Care, the following resolutions of the Survey Committee of the Augusta County Medical Association were unanimously adopted by that organization at a regular meeting on May 3, 1939:

RESOLVED that there is adequate and competent medical personnel in Staunton, Waynesboro and Augusta County to take care of the medical requirements of the respective communities. That the hospital facilities are adequate to provide for the hospitalization of the ordinary medical and surgical cases but that more adequate facilities are desirable to provide for colored patients and to isolate contagious diseases.

RESOLVED that it is the sense of this Society that the provision for medical and surgical and hospital care for indigent and medically needy patients is a civic responsibility and obligation. That up to the present time the communities have only in small part met this responsibility and obligation. The major portion of the economic burden for indigent and medically needy medical and surgical cases has been borne by the members of the medical profession and the King's Daughters' Hospital.

It is recommended by this Society that the Board of Supervisors of Augusta County and the City Councils of Staunton and Waynesboro devise some plan whereby sufficient fund can be raised or appropriated to provide all necessary medical, surgical and hospital care of indigent and medically needy cases of the several communities. By the term medically needy is meant those who cannot pay for medical care without sacrificing some of the necessities of life such as food, fuel or clothing.

At the present there is no one agency authorized to make comprehensive provision for medical care and hospitalization of needy, indigent and medically needy individuals. Therefore, your committee recommends the following resolution:

RESOLVED that the Augusta County Medical Society initiate a movement to establish a Central Medical Service Bureau.

THAT the Board of Supervisors of Augusta County and the City Councils and the Welfare Association and the Hospitals be requested to cooperate with the Medical Society in the organization of such a Bureau and provide the necessary facilities for its operation and that the Board of Supervisors of Augusta County and the City Councils provide the funds to finance such a Bureau.

The function of the Bureau shall be:

1. To serve as a liason between indigent and medically needy cases and the physicians, hospitals and sources of revenue.
2. To establish an investigation and records department to determine the eligibility of individuals for medical or hospital aid, this to be done with the cooperation of the Welfare and other departments.
3. To act as a clearing house for receiving and certifying all accounts rendered by the hospitals and the physicians for the indigent and medically needy.

IT IS RECOMMENDED:

That an Economics Committee of the Augusta County Medical Society be provided consisting of five members. The President and Secretary of the Society *ex officio* shall be members of this committee. The committee shall represent the Society in the formulation of any plans or projects contemplated by the several governmental bodies for the improvement of medical care. Committee action shall be subject to the approval of the Society.

IT IS RECOMMENDED:

That in lieu of a fixed appropriation to the hospitals as at present provided, the Board of Supervisors and City Councils pay a fixed maintenance charge on a per diem patient basis for each medically needy and indigent case hospitalized by authority of the County or City Governmental Agencies and through the Central Medical Service Bureau.

In view of the fact that 7,838 children in Staunton and Augusta County were reported in need of very necessary dental care to remedy existing dental defects, it is recommended that the full-time dental clinic now in operation in Augusta County be enlarged and care for the needs of the children of Staunton as well as Augusta County, the details of this plan to be worked out by the Health Departments and the School Boards.

In order to avoid duplication of activities and to secure a maximum efficiency in public health administration, your Committee urges the establishment of a joint health department of Staunton and Augusta County.

IT IS RECOMMENDED:

That copies of the above resolutions and recommendations be sent to all agencies and organizations concerned.

RICHMOND

Convention City

for

Seventieth Annual Meeting of Medical Society of Virginia

October 3, 4, and 5, 1939

The Richmond Academy of Medicine, of which Dr. Karl S. Blackwell is president, will be host to the Medical Society of Virginia at its seventieth annual convention to be held in Richmond October 3-5, with headquarters at the John Marshall Hotel. Dr. Roshier W. Miller is general chairman from the Academy, with Dr. W. Lowndes Peple as vice chairman. Other chairmen are: Dr. Lewis E. Jarrett, entertainment; Dr. William H. Higgins, hotels; Dr. E. T. Trice, finance; Dr. Lawrence T. Price, publicity; Dr. Harvey B. Haag, exhibits; Dr. T. Dewey Davis, meeting halls; Dr. E. H. Terrell, golf; Mrs. James K. Hall, arrangements for the Woman's Auxiliary.

All chairmen are busily engaged in fulfilling their respective tasks. It is felt that this will be one of the most interesting meetings of the Society, for many new ideas with regard to the program will be tested out. The committee hopes that all members will make a special effort to attend the convention this year, bringing their wives and daughters.

To tell members of the Society about the many famous shrines located in Richmond seems more or less like carrying coals to Newcastle. No doubt all are familiar with the city's brilliant history and most of them have doubtless visited the places where it was made. Nevertheless, a review of the historic places to be seen may not be out of order.

RICHMOND ACADEMY OF MEDICINE BUILDING

One of Richmond's outstanding showplaces is beautiful Capitol Square where stands the magnificent Capitol building, designed by Thomas Jefferson after the Maison Carree at Nimes. The foundation was built in 1785 and the structure completed in 1792. When more space was required, two wings were added in 1902, designed in the same Grecian style so much admired by Jefferson in France. This building is the meeting place of the oldest representative law-making body in America, and the oldest in the world established by a free people under a written constitution.

In the rotunda of the Capitol is the Houdon statue of Washington—the only one in existence today designed from life. Jefferson engaged the famous sculptor to make the statue at the request of the Virginia General Assembly. Houdon came to America and spent some time in Mount Vernon, taking measurements. He returned to Paris and completed his work in time for it to be unveiled in 1788.

Also in the Capitol building is the old Hall of the House of Delegates, the most historic room in America with the possible exception of Independence Hall in Philadelphia. In this one room the Virginia convention ratified the Articles of Secession; here Chief Justice John Marshall presided over the trial of Aaron Burr for treason; the Confederate Congress met during the war; and Robert E. Lee accepted command of the armies of Northern Virginia.

The Capitol Square is the location of the equestrian statue of Washington, executed by Thomas Crawford and cast in Munich at a cost of $100,000; the Governor's Mansion; and many monuments to Virginia's sons.

Nestling amid giant shade trees on one of Richmond's seven hills is old St. John's Episcopal Church, where Patrick Henry made his immortal

"Liberty or Death" oration. In the cemetery surrounding the quaint, white frame structure is the grave of George Wythe, first professor of the first law course offered by an American college. One of those who studied under him was John Marshall who later became third chief justice of the United States Supreme Court. Also in this cemetery is the grave of Elizabeth Arnold Poe, mother of Edgar Allan Poe. Marshall's grave is to be seen in old Shockoe cemetery. It is recalled that Charles E. Hughes, the present chief justice of that tribunal, made a special trip to the cemetery to place a wreath on the tomb of Marshall when he came to Richmond in 1931 to deliver the address incident to the unveiling of the bust of James Madison, fourth president of the United States and famed as the Father of the Constitution, in the rotunda of the capitol.

A simple exterior hides the classic dignity of the interior of the home of Marshall which he designed himself. The residence containing much of the original furniture is now the property of the Association for the Preservation of Virginia Antiquities. It is situated at the northwest corner of Ninth and Marshall streets.

The White House of the Confederacy is now the Confederate Museum—a treasure house of relics of

DR. KARL S. BLACKWELL,
President, Richmond Academy of Medicine

the War Between the States. A room is dedicated to each of the thirteen states of the Old South. On display are the uniforms, swords, camp chest and multitudinous relics of Generals Robert E. Lee, Thomas J. (Stonewall) Jackson, Joseph E. Johnston and J. E. B. Stuart. For the student, there are invaluable historical papers and files.

In bold contrast to the Confederate Museum are the new, modern buildings of the Medical College

DR. ROSHIER W. MILLER,
Chairman, Committee of Arrangements

of Virginia which are in the same section of the city. The M. C. V. is one of the oldest medical colleges in the South and the only one in the Confederacy which remained open during the entire period of the War Between the States.

It was opened in 1838 as a department of Hampden-Sidney College and has been in continuous operation since that time. In 1854 it was chartered as a separate school. Up to the time of its organization, students of the South who desired standard courses in medicine flocked to the Northern cities. The college in Richmond won early recognition and, at the approach of the War Between the States, Southern students came in increasing numbers to Richmond. To meet the demands made upon it, the faculty, in exchange for funds to increase the hospital facilities, deeded its property to the State of Virginia in 1860. As a State institution the General Assembly has appropriated for its support since 1866. Appointments to the board of visitors are made by the Governor of Virginia. The original unit of the college is an un-

usual structure. The building is said to be an almost perfect example of Egyptian architecture.

On Franklin Street in Richmond is a wooden building that is the oldest Masonic Hall in continuous use in the Nation. Lafayette was given a reception there in 1824 when he returned to visit the battlefields on which he fought during the Revolution.

Not far from this landmark is the oldest house in Richmond, erected about 1686. It has been restored and is now the Edgar Allan Poe Shrine, housing much Poe material and many articles relating to his residence in the Southern capital. In the rear of this home, that time seems unable to destroy, is the beautiful "Enchanted Garden".

MRS. JAMES K. HALL,
Chairman, Ladies' Committee

Only a few blocks away is the site of the Southern Literary Messenger Building, where Poe edited that magazine to enduring fame.

The residence of General Robert E. Lee is now the home of the Virginia Historical Society. It is an upright house, typical of many built by the wealthier Richmonders in the early nineteenth century, and contains priceless papers and many intensely interesting mementos of the war.

In the heart of Richmond's tobacco district is the site of the Libby Prison, most famous of all Confederate prisons. The old warehouse bastile, where thousands of Federal prisoners had been confined, was torn down and taken to Chicago to be rebuilt for the World's Fair in 1893.

Monumental Episcopal Church was built in 1812 on the site of one of Richmond's greatest tragedies. It stands today as a memorial to more than seventy persons, including the Governor of Virginia, who lost their lives in a fire which destroyed a theatre on December 26, 1811. It was in this same theatre that the Virginia Convention of 1788 had ratified the Federal Constitution.

Typical of the Richmond residences of the early nineteenth century is Valentine Museum, erected in 1812 by John Wickham, a leading attorney for Aaron Burr. The home contains a collection of Indian archaeology as well as many prints, casts, books and tapestry dating from 1474. Many of the works of Edward V. Valentine, Richmond's most famous sculptor, are in the Valentine Museum, including a plaster cast of the recumbent statue of Robert E. Lee.

Another place of great historic interest is Hollywood Cemetery. Two President of the United States —Monroe and Tyler—are buried there, as well as Jefferson Davis and his family, Matthew Fontaine Maury, and several Virginia Governors.

The arsenal of the Confederacy, the Tredegar Iron Works—founded in 1836—is still in operation. This foundry furnished the Southern forces with most of its cannon and shot, and rolled the plates for the *Merrimac*, the iron-clad warship of the Confederacy.

Much of the New Richmond is to be seen in the western section of the city. Beautiful Monument Avenue is lined with monuments of leaders of the Confederacy. Travelling westward, the first statue shows General J. E. B. Stuart, the great cavalry leader. Next, is a monument on which are marked only three letters—Lee. The South felt that anything else would be superfluous. This likeness of the Confederate commander, on "Traveller", was sculptured by the French artist, Jean Antoine Mercie. The Monument to Jefferson Davis shows the President of the Confederacy in the posture of oratory. Thomas J. (Stonewall) Jackson is mounted on "Sorrel". And last is the monument to Matthew Fontaine Maury, path finder of the seas.

One of the most beautiful buildings in Richmond is Battle Abbey—the Confederate Memorial Institute. An entire section of the museum is devoted to the famous murals of Charles Hoffbauer, depicting the four seasons of the War Between the States. Another section contains rare books and old newspapers.

The Virginia Museum of Fine Arts houses the John Barton Payne and Henry Strause collections of

paintings, prints and decorative arts. The museum was made possible through a donation by Judge Payne, who contributed the first $100,000 of the total cost.

The Carillon is Virginia's contribution to her dead of the World War. It towers 240 feet and contains sixty bells ranging in diameter from six feet, nine inches to six inches. On the floor of the Carillon is a museum containing relics of the world conflict.

A place of beauty is the campus of the University of Richmond. Its many classic buildings are situated among rolling, green hills and giant trees.

Among the residences that attract wide attention are Virginia House and Agecroft Hall. Virginia House was built of materials brought from Warwick Priory, Warwick, England, in 1925, by Alexander Weddell, now Ambassador to Spain. Over a window is the royal coat of arms, conferred to show that the house had given shelter to Queen Elizabeth in 1572. Agecroft Hall was erected in Lancashire, England, about 1393, and was brought to Richmond and rebuilt in 1925 by Mr. and Mrs. T. C. Williams.

So numerous are the Shrines in this section that they extend beyond Richmond's borders.

Just outside of the corporate limits are the battlefields where the Northern and Southern forces fought for months. The area has been restored by the National Park Service, so today an hour's leisurely motor trip will take visitors through the land for which thousands of heroes died. Most of the fortifications are still there—monuments to the War Between the States.

For every one attending the convention there will be ample accommodations at the John Marshall Hotel, headquarters of the convention, as well as at the Jefferson, William Byrd, Richmond, Murphy's, and Capitol Hotels.

Public Health Statistics

I. C. RIGGIN, M. D.,
State Health Commissioner of Virginia.

The report of the Bureau of Communicable Diseases of the State Department of Health for May, 1939, compared with the same month in 1938 follows:

	1939	*1938*
Typhoid and paratyphoid fever	13	17
Diphtheria	27	49
Scarlet fever	61	79
Measles	3,177	1,619
Meningitis	0	13
Poliomyelitis	0	1
Rocky Mountain spotted fever	3	5
Typhus fever	0	0
Undulant fever	1	2
Tularemia	4	5

INDUSTRIAL HYGIENE

For many years public health authorities have recognized that the protection of the health of industrial workers has been somewhat neglected. Within the past few years, however, increased state appropriations and government funds have provided for public health activities in the field of industrial health.

Life is shorter in the industrial population than in the general population. Industrial workers suffer more from general as well as degenerative diseases than any other group. The occupational diseases are in need of control, but improvement in the general health of workers with a reduction in lost time due to ordinary illnesses is the main goal of an industrial hygiene bureau. This can be accomplished by directing attention to unsatisfactory working environments and by indicating to employers the economy of correcting them.

There are now twenty-eight states and three cities which have augmented public health work with industrial hygiene divisions. As is known, Virginia has started activity in this field. A bureau of industrial hygiene, with a minimum personnel—a physician-director, an engineer, a chemist, and a secretary—was formed in 1936.

Surveys in the State show that a quarter of a million Virginians are employed in manufacturing and mechanical, extraction of mineral, and service industries. Only about 4 per cent of the plants in Virginia employ more than 500 workers, and about 40 per cent of the workers are employed in these larger plants. Usually, it is uneconomical for plants employing less than 500 workers to carry out an adequate medical program for employees.

The Virginia Health Department is equipped to work cooperatively with the industries in the solution of their health problems. Special equipment is available for determination of concentrations of dust,

fumes, gases, and vapors in the atmosphere; for determination of ventilation, temperatures and humidities, and lighting. The industrial hygiene bureau works with industry and with industrial physicians in the diagnosis of occupational diseases, suggests remedial measures for the elimination of health hazards of all types, is in a position to advise regarding toxicity, allowable concentrations of materials, and types of desirable control equipment.

The services of the industrial hygiene personnel are also available in assisting in the formation of joint medical services for several small plants so located geographically that such arrangement is practicable.

With the present tendency of Virginia to become more industrialized, the service of the bureau can foster the use of industry and industrial centers as units for public health activities, bridging the gap that has existed in public health service to a large portion of our adult population. By reference of cases to the family physician and by remedial activities in industrial environment, the existing life spans of industrial workers should be lengthened, and morbidity rates should be lessened to the economic advantage of industry itself and of the individual workers.

These activities of the State Department of Health can be facilitated if the local practicing physicians will report to the department cases of occupational diseases and any unusual prevalence of ordinary diseases among their patients in industry or industrial centers.

Woman's Auxiliary to the Medical Society of Virginia

President—MRS. HAWES CAMPBELL, Venter.
President-Elect—MRS. HENRY A. LATANE, Alexandria.
Corresponding Secretary—MRS. PAUL PEARSON, Aylett.
Recording Secretary—MRS. E. LATANÉ FLANAGAN, 3413 West Franklin Street, Richmond.
Treasurer—MRS. REUBEN F. SIMMS, 2502 Hawthorne Avenue, Richmond.
Chairman, Press and Publicity—MRS. WILBERT E. BUTLER, 217 East Indian River Road, Norfolk.

Summer Greetings!

The "good ole summer time" is here in earnest with all its charm and beauty, vacation trips, bright and fragrant flowers, singing birds, homecoming graduates, visitors arriving, and all the fun and pleasure that summer brings is here; but, in spite of such pleasant scenes and the temptation to let work slide, our Auxiliary activities must go on!

Thursday, June 15, I spoke on *Aims and Opportunities Of the Auxiliary* before the Woman's Auxiliary to the Old Dominion Medical Society meeting in Richmond for its annual convention. Mrs. J. K. Hall, President of the Auxiliary to the Academy of Medicine, accompanied me on this occasion. It was a privilege to meet with this interested and well informed group of women in their cool and neatly furnished community house and to listen to their reports showing the splendid work these women are doing for their race. Many of them are laboring under difficulties such as we encounter among our groups. However, they are determined to overcome these as they continue their efforts. I wonder if under all circumstances and difficulties we are as persevering and faithful to our trust. The president of the Old Dominion Auxiliary proved herself a gracious presiding officer. She greeted us with a cordial handshake and a pleasant smile, causing us to feel at home and that we were welcomed by the entire group. She presented Mrs. W. H. Hughes, the program chairman, who presented Mrs. Hall. Mrs. Hall, at her request, introduced me as their guest speaker. I told them of the aims and possibilities of the auxiliary and of the many things, both large and small, that it might accomplish; at all times and in all places there are opportunities to promote health education, to render service to the profession of which we are an auxiliary and of the social contacts we have to make for brotherly love and which at all times has its reaction on other groups and organizations and people at large. We enjoyed the hour spent with this interesting group and we sincerely hope that our talks and suggestions we offered may prove helpful. With pleasant memories of the meeting we left to have lunch, followed by a conference on plans for our October Convention.

I hope that you may spend a pleasant and restful summer, but that you will keep on your mind and heart always our auxiliary work. Start now to make your plans to be with us in our lovely capital city on October 3, 4, 5; we have two days—4th and 5th. Many happy events await you!

Faithfully yours,
ELLIE C. CAMPBELL,
(MRS. HAWES CAMPBELL),
President.

Norfolk County.

The regular meeting of the Woman's Auxiliary to the Norfolk County Medical Society was held on May 31 in the library of the Medical Arts Building, with Mrs. Millard Savage, president, presiding.

Plans were made for an informal reception to be given the doctors following their regular meeting on June 5. This was in observance of "Doctor's Day".

The Auxiliary also decided to give scales and medical supplies to the day nursery. This action was taken as the result of a talk on the needs of the nursery by Mrs. Robert Whitehead of the W. P. A. Recreational and Service Centers.

Dr. Julian L. Rawls gave a talk on some of the diagnostic aspects of cancer and told of the work being done in the tumor clinic.

Mrs. H. W. Rodgers will be president of the Auxiliary for the coming year, and Mrs. Albert G. Horton will succeed Mrs. Rodgers as president-elect.

(MRS. BROCK D.) EUGENIA H. JONES,
Chairman, Press and Publicity.

Richmond Academy of Medicine.

The Woman's Auxiliary to the Richmond Academy of Medicine recently assisted other organizations in the presentation of a dance recital and lecture, the proceeds being used for the purchase of needed medical supplies for China.

A program meeting was held on May 25 in the Academy when Dr. Maude Woodfin, of Westhampton College, reviewed "Through Embassy Eyes". Mrs. J. B. Dalton was chairman of the afternoon. Mrs. C. P. Mangum and Mrs. Lawrence Snead presided at the punch bowls during the social hour which followed.

The Auxiliary approved the recommendation from the Board that they make a permanent endowment of linen for a cot in the Crippled Children's Hospital. So successful was the card party held recently that a substantial first payment on the pledge of $1,000 was sent.

A doll dressed as "Captain Sally Tompkins"—apparently on her way to church—was sent to represent the Richmond Auxiliary, along with dolls from other sections of Virginia, as part of an exhibit arranged by Mrs. Roy Jones, of Alexandria, who took it to St. Louis. She is planning to have this interesting "show" at the State meeting in October.

Recently some of the Auxiliary members wrote or talked to members of the City Council of Richmond asking them to vote in favor of the pending recommendation so that as a result of their voting something might be started looking towards the improving of the housing situation in this city.

(MRS. J. K.) LAURA ERVIN HALL,
President.

Truth About Medicine

In addition to the articles previously enumerated, the following have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association:

Lederle Laboratories, Inc.
Sulfapyridine—Lederle.
Tablets Sulfapyridine—Lederle, 0.5 Gm. (7.7 grains).

Eli Lilly & Co.
Estriol—Lilly.
Pulvules Estriol, 0.06 mg.
Pulvules Estriol, 0.12 mg.
Pulvules Estriol, 0.24 mg.

Estrone—Lilly.
Ampoules Estrone in Oil, 0.1 mg.
Ampoules Estrone in Oil, 0.2 mg.
Ampoules Estrone in Oil, 0.5 mg.
Ampoules Estrone in Oil, 1.0 mg.
Suppositories Estrone, 0.2 mg.

New and Nonofficial Remedies

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Nonofficial Remedies:

Ampoule Solution Sodium Morrhuate 5 per cent with Benzyl Alcohol, 2 per cent, 2 cc.—Each cubic centimeter contains sodium morrhuate (New and Nonofficial Remedies, 1938, p. 448) 0.05 Gm. (3/4 grain) and benzyl alcohol 0.02 Gm. (1/3 grain) in aqueous solution. The Upjohn Company, Kalamazoo, Mich.

Solution Sodium Morrhuate 5 per cent with Benzyl Alcohol 2 per cent, 30 cc. Vials.—Each cubic centimeter contains sodium morrhuate (New and Nonofficial Remedies, 1938, p. 448) 0.05 Gm. (3/4 grain) and benzyl alcohol 0.02 Gm. (1/3 grain) in aqueous solution. The Upjohn Company, Kalamazoo, Mich.

Ampoule Solution Sodium Morrhuate 10 per cent with Benzyl Alcohol 2 per cent, 2 cc.—Each cubic centimeter contains sodium morrhuate 0.1 Gm. (1½ grains) and benzyl alcohol 0.02 (1/3 grain) in aqueous solution. The Upjohn Company, Kalamazoo, Mich.

Solution Sodium Morrhuate 10 per cent with Benzyl Alcohol 2 per cent, 30 cc. Vials.—Each cubic centimeter contains sodium morrhuate 0.1 Gm. (1½ grains) and benzyl alcohol 0.02 Gm. (1/3 grain) in aqueous solution. The Upjohn Company, Kalamazoo, Mich.

Concentrated Antipneumococcic Serum, Types IV and VIII—Squibb.—An antipneumococcus serum types IV and

VIII combined (*The Journal*, June 18, 1938, p. 2082) prepared by immunizing horses with intravenous injections of cultures of types IV and VIII pneumococci. The serum is refined and concentrated by the method of Lloyd D. Felton. The usual sterility and safety tests are made, as required by the regulations of the U. S. Public Health Service. It is marketed in vials containing 20,000 and 50,000 units, respectively, of each type. E. R. Squibb & Sons, New York.

Concentrated Antipneumococcic Serum, Types V and VII—Squibb.—An antipneumococcus serum types V and VII combined (*The Journal*, June 18, 1938) prepared by immunizing horses with intravenous injections of cultures of types V and VII pneumococci. The horses are bled aseptically and the serum is refined and concentrated by the method of Lloyd D. Felton. The usual sterility and safety tests are made, as required by the regulations of the U. S. Public Health Service. The product is marketed in packages of one vial containing 20,000 units and 50,000 units, respectively, each of types V and VII. E. R. Squibb & Sons, New York.

Propaganda for Reform

Danger of Intra-Urethral Injection of Solutions of Local Anesthetics.—The Council on Pharmacy and Chemistry has again considered a report on local anesthetics, particularly in reference to the continued reports of severe reactions following the intra-urethral injection of solutions of various local anesthetics. The Council has long warned against the danger of such procedures. The Council points out that in this type of tragic accident often the occurrence is wholly unexpected and it may follow the injection of a much smaller amount than the same patient had previously had without notable symptoms. The Council directed that all manufacturers of Council accepted local anesthetics which may be used for intra-urethral injection be required to include a suitable warning of the dangers of the intra-urethral injection in the presence of trauma, or where it is likely to occur at the time of injection, when the present advertising is reprinted, and in any event within one year of the date of notification. (*J. A. M. A.*, April 1, 1939, p. 1256.)

Book Announcements

Life and Letters of Dr. William Beaumont. By JESSE S. MYER, A.B., M.D., Late Associate in Medicine in Washington University, St. Louis. With an Introduction by Sir William Osler, BT., M.D., F.R.S., Late Regius Professor of Medicine in Oxford University, England. The C. V. Mosby Company. St. Louis. 1939. Octavo of xxxi-327. Illustrated. Cloth. Price, $5.00.

Review appears in Editorial column.

Endocrinology in Modern Practice. By WILLIAM WOLF, M.D., M.S., Ph.D., Endocrinologist to the French Hospital; Attending Endocrinologist, Misericordia Hospital, New York City; Consulting Endocrinologist, New York University Dental School. Second Edition, Completely Revised. Philadelphia. W. B. Saunders Company. 1939. Octavo of 1077 pages. Illustrated. Cloth. Price,

Review appears in Editorial column.

Menstrual Disorders. Pathology, Diagnosis and Treatment. By C. FREDERIC FLUHMANN, B.A., M.D., C.M., Association Professor of Obstetrics and Gynecology, Stanford University School of Medicine, San Francisco, Calif.; etc. Philadelphia. W. B. Saunders Company. 1939. Octavo of 329 pages. Illustrated. Cloth. Price,

Review appears in Editorial column.

Clinics on Secondary Gastro-Intestinal Disorders: Reciprocal Relationships. By JULIUS FRIEDENWALD, M.D., Professor Emeritus of Gastro-Enterology, University of Maryland, School of Medicine; THEODORE H. MORRISON, M.D., Clinical Professor of Gastro-Enterology, University of Maryland, School of Medicine; and SAMUEL MORRISON, M.D., Assistant Professor of Gastro-Enterology, University of Maryland, School of Medicine. Baltimore. William Wood and Company. 1938. Octavo of xi-251 pages. Cloth. Price, $3.00.

The stomach has been called the "doorbell of the body". The truth of this statement is well borne out in this volume of 251 pages.

The value of this book lies chiefly in its reference possibilities. To read the book from cover to cover would be both boring and confusing. However, if the student or practitioner desires either to know all the reflex possibilities in a given gastro-intestinal complaint or, given a diagnosis, wishes to know its relationship to the gastro-intestinal tract, he has valuable and ready reference in this book. There are many references and the material is covered in a very painstaking manner.

E. B. MEWBORNE, M.D.

Hospital Service in the United States. 1939. Eighteenth Presentation of Hospital Statistics by the Council on Medical Education and Hospitals of the American Medical Association. The 1938 Census of Hospitals. Hospitals Registered by the American Medical Association. Reprinted from the Hospital Number of the Journal of the American Medical Association, March 11, 1939. Pamphlet of ninety pages. Price, 50 cents.

Toward A Healthy America. By PAUL DE KRUIF. Public Affairs Pamphlets No. 31. 1939. Published by the Public Affairs Committee, Inc. 30 Rockefeller Plaza. New York City. 32 pages. Paper. Price, 10 cents.

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Editorial

The Teaching and Practice of Therapeutics.

At the last meeting of the Association of American Physicians, Chairman Eugene F. DuBois urged a therapeutic housecleaning. He recommended that the ship of therapy be beached for a thorough removal of the barnacles of the ages. He stated that he felt sure that much rubbish needed to be swept from hospital formularies and that he thought such action an objective of major importance.

Dean W. F. Rudd of the School of Pharmacy of the Medical College of Virginia also has some ideas concerning the teaching and practice of therapeutics in the medical schools. He has communicated them to the Editor as follows:

"We have observed with growing concern the drift away from sound and broad teaching of materia medica and therapeutics in the medical schools of the country. Only recently, when we discussed this subject with the one most responsible for the making of the curriculum in one of these schools, he shrugged his shoulders and quoted Dr. Cabot to the effect that knowledge of some six drugs was quite sufficient for the successful practice of medicine.

"Naturally as a chemist, with more or less knowledge of the growing importance of chemo-therapy, and even of the gradual development through profound research of more and more specific therapy, we reviewed rather hastily the many medicaments which, whether right or wrong, are in daily use by the most successful and distinguished practitioners of medicine whose work we have been privileged to note at first hand, or through the literature in the medical field that we read fairly consistently.

"There is so little in common between the cynical observation noted above and common practice among these men that we were greatly heartened to find recently the following pronouncement on this subject in the Annual Report of Dr. Raymond B. Fosdick, President of the Rockefeller Foundation. In a chapter entitled 'Tasks Ahead for Medicine,' Dr. Fosdick discusses ruthlessly some of the weaknesses in medical teaching. One of these bears so directly upon the subject under discussion in this paper that we take the liberty of quoting it in full:

" 'In twenty-five recognized American medical schools there are no separate departments of pharmacology, the subject being combined for economic reasons with physiology or biochemistry. In many other schools where there is a division, the subject receives but meager support. This situation is doubtless responsible for the failure of pharmacology to attract recruits and for the shortage of outstanding younger men to fill professional chairs which are becoming vacant. Larger support is needed not only to promote fruitful research in this important field but also to improve the teaching on the applied side—the administration of drugs—which is notably weak in most American medical schools.'

"It would seem that wise curriculum makers in medical schools will take cognizance of the position stated by so distinguished a man. It is unlikely that he as a non-physician would have ventured into this field without having gone thoroughly into it through efficient and trustworthy advice from the medical profession itself.

"May we dare hope that out of it will come into the medical curriculum some sort of training for young physicians that will prevent their having to learn their materia medica and therapeutics from detail men who contact them so persistently and often so efficiently."

Licensed Subsidiary Nurses.

On July 31, 1939, the Sheltering Arms Hospital of Richmond will graduate fourteen "trained attendants", or nurses' helpers as they are sometimes called. These young women will have had eighteen months in the training school and will be capable of carrying out most of the practical work required of nurses. They will be licensed by the Nursing Board of the State after they have passed suitable examinations. They must then register and come up to certain prescribed standards.

It is understood that these are the first nurses of this type to be graduated from any institution in the State of Virginia. They, therefore, represent a new departure and one which we believe meets a long standing need.

There are 150,000 undergraduate nurses in the United States. Very few of them are licensed. Such irregular practitioners have been a constant threat to the traditions and ideals of the trained nursing profession. The new licensed attendants do not claim to be trained nurses and do not expect the remuneration of trained nurses and they will be controlled by the regular nursing boards. They will no doubt prove of great value in meeting the needs of the nursing care of the American people, since it is generally recognized that a shortage of nurses exists and that great masses of our people cannot pay the prevailing fees.

Trained nurses should not regard these newcomers as competitors, but rather as helpers. It is hoped that the nursing profession and the medical profession will join hands in fostering the wider production and distribution of a new service that bids fair to find a welcome for itself immediately.

On Choosing a Physician.

Though he may disguise himself as Autocrat, Poet and Professor of the Breakfast Table, Oliver Wendell Holmes is but the physician still. It is true that his perfect sanity, his mellow wit, his kind understanding and his real wisdom lifted him in his lifetime head and shoulders above the rank and file of his brother toilers, but the beauty of him is that he is not too removed for even the least of us to approach him in appreciation.

He advises his young friends on the choice of a physician in these words:

"If you are making choice of a physician, be sure you get one, if possible, with a cheerful and serene countenance. A physician is not—at least, ought not to be—an executioner; and a sentence of death on his face is as bad as a warrant for execution signed by the Governor. As a general rule, no man has a right to tell another by word or look that he is going to die. It may be necessary in some extreme cases; but as a rule, it is the last extreme of impertinence which one human being can offer to another. 'You have killed me', said a patient once to a physician who had rashly told him he was incurable. He ought to have lived six months, but he was dead in six weeks. If we will only let Nature and the God of Nature alone, persons will commonly learn their condition as early as they ought to know it, and not be cheated out of their natural birthright of hope of recovery, which is intended to accompany sick people as long as life is comfortable, and is graciously replaced by the hope of heaven, or at least of rest, when life has become a burden which the bearer is ready to let fall."

Human Hibernation.

Dr. Temple S. Fay and Dr. Lawrence S. Smith of Philadelphia exhibited at the St. Louis meeting of the American Medical Association moving pictures illustrative of a new idea in medical treatment. They showed persons undergoing what has been termed "human hibernation," a state achieved by subjecting nude patients to a pack of cracked ice in a cool room fanned by electricity. The rectal temperature drops to 89 degrees and it is said that this temperature can be maintained for four or five days after the ice is removed if the room is kept cool. Persons who submit to this procedure are said to become pleasantly drowsy and to remain so until awakened five days later with hot drinks and hot applications. They

then have no recollection of the period of treatment. During this time the heart continues to beat regularly, the metabolism slows 10 or 20 per cent, the kidneys stop functioning, the stomach and intestines quit working, and there is a general period of rest for somatic cells. Subjected to such an altered environment, bacteria seem to suffer more than the host they infect. Most promising of all it is claimed that cancer cells are not only slowed up in their growth but may afterwards show inability to grow again. This method of treatment is now being suggested as a means of arresting hopeless cancer and as the treatment of heart disease and insanity and of such bacterial diseases as tuberculosis. Like all innovations it must await the test of time. In the meantime the public should not be misled by newspaper publicity and the medical profession should go slowly in reaching its own independent conclusions.

William Beaumont's Connection with Virginia.

In the winter of 1833 Robley Dunglison, professor of physiology in the University of Virginia, was busily corresponding with an army surgeon by the name of William Beaumont. Dunglison repeatedly analyzed specimens of gastric juice obtained from the fistula in the side of Alexis St. Martin by Beaumont, and reported the presence of muriatic acid. He went to Washington to look over Beaumont's work and offered him many helpful suggestions. To this Virginia physiologist therefore must go some of the credit which Beaumont enjoys for his classical *Observations and Experiments on the Gastric Juices and the Physiology of Digestion.*

In the spring of 1838 the family of Robert E. Lee, then a Lieutenant of Engineers, arrived in St. Louis where he was at work changing the course of the Mississippi River. They found board in the home of the most successful doctor in the community, William Beaumont. In the spring of 1840 Captain Robert E. Lee, then on duty in Washington, concerned himself with the efforts of Dr. William Beaumont to get back into the Army from which he had resigned some time previously. Lee's efforts in Beaumont's behalf were disappointing, but in writing to him he concluded by saying "let me know how far matters have progressed, and whether there is anything so small a man as myself can do to shove them along." And so another eminent Virginian crossed the life of William Beaumont. Had Lee succeeded in securing his friend's reinstatement in the army, further experimentation with Alexis St. Martin's stomach might have resulted and led to other observations of lasting worth.

In 1845, twelve years after the publication of Beaumont's work on the gastric juice, Edouard Brown-Sequard was astonishing his colleagues at the Medical College of Virginia by demonstrating what the experimental method meant. Among other things he let sponges attached to strings down into his stomach in order that he might bale out gastric juice at will. By constant practice he acquired the facility, useful to his experiments, of regurgitating stomach contents when the occasion required it. Brown-Sequard's interest in the physiology of the stomach and its digestive fluid was a direct result of the pioneer experiments of Beaumont, and so again a son of Virginia and the pioneering army surgeon met.

In issuing a new print of Jesse S. Myer's *Life and Letters of Dr. William Beaumont,* C. V. Mosby Company deserves the thanks of all American doctors interested in the great achievements of one whom the International Congress of Physicians meeting in Boston in 1929 canonized as the patron saint of American physiologists.

Wolf's Endocrinology.

The second edition of William Wolf's *Endocrinology in Modern Practice* is just off the press of W. B. Saunders Company. Like many other medical books it is large, containing 1,077 pages. Like some other medical books it tends to be verbose, but on the whole this revision of a work that had already gained some popularity is impressive. It covers the usual diseases classified as endocrine, devotes considerable attention to the relation of the vitamins to the glands of internal secretion, considers in a separate section the endocrine aspects of non-endocrine diseases, and gives another section to diagnosis in which is included the interpretation of laboratory findings. Two chapters are of particular interest, one dealing with symptom diagnosis, and the other consisting of the description and dosage of commercially available endocrine products. The book is designed for the practitioner for whom it attempts to furnish "a full and usable knowledge of clinical endocrinology". One is tempted to ask do not those books which are satisfied with epitomization more nearly satisfy the desire for a useful text in a subject which is still in the stage of flux and change?

Menstrual Disorders.

Under this title C. Frederic Fluhmann (W. B. Saunders Company) discusses the pathology, diagnosis and treatment of one of the commonest complaints known in medicine. The book is clear, brief, well written and well illustrated. It deals with a subject of almost universal interest and whereas the last word has not been said the author has succeeded in packing much that is new and worth knowing into a handy monograph which deserves a place in the library of all general practitioners.

Proceedings of Societies

The Fourth District Medical Society,

A component part of the Medical Society of Virginia, held its annual meeting at Blackstone, on May 30.

The following physicians presented interesting papers: Dr. Douglas Chapman and Dr. W. Ambrose McGee of Richmond, Dr. Philip Jacobson and Dr. W. M. Bowman of Petersburg, and Dr. R. H. Manson of McKenney. Two of the papers presented were upon relatively new subjects. Dr. Jacobson discussed a new operation and Dr. Bowman gave an excellent paper on "Euthanasia", a subject which has previously not been presented to medical societies of that section but which is at the present time creating national interest.

Drs. James O'Neal of Amelia, Frank A. Dick of the Central State Hospital, Petersburg, and D. L. Harrell, Jr., of the State Colony, Petersburg, were elected to membership.

Dr. Munford Yates of Petersburg was elected president; Dr. W. M. Phipps of Hopewell and Dr. J. B. Kizer of Emporia was elected second vice-presidents. Dr. C. E. Martin of Emporia was re-elected secretary-treasurer and Dr. Wright Clarkson of Petersburg was re-elected chairman of the steering committee.

The next meeting will be held in Emporia on the last Tuesday in August.

The Rockbridge County Medical Society

Held a meeting on May 22 at the home of Dr. E. P. Tompkins, secretary, in Lexington. The president, Dr. F. L. Thurman of Buena Vista, presided. Most of the doctors of Rockbridge County attended and there were several guests: Dr. Alex. F. Robertson and Dr. Guy Fisher of Staunton, Dr. A. P. Jones of Roanoke, and the guest-speaker, Dr. H. B. Mulholland of the University of Virginia. Dr. Mulholland's subject was "Acidosis, Alkalosis and Dehydration". This was illustrated by lantern slides and freely discussed. Following the scientific program, the doctors adjourned to the dining room where light refreshments were served.

Norfolk County Medical Society.

At the annual meeting of this Society, held in June, the following officers were elected: President, Dr. Harvie S. Baker; president-elect, Dr. James W. Anderson; vice-president, Dr. D. Lee Hirschler; and secretary-treasurer, Dr. Lockburn B. Scott. Dr. Scott was re-elected to serve his 21st year. Dr. George G. Garrison was admitted as a new member.

Williamsburg-James City County Society.

On June 8, the Society held its last meeting of the season at the Providence Forge Club. Since the last semi-annual report new officers have been elected as follows: Dr. J. R. Tucker, President, Dr. T. B. Henderson, Vice-President and Dr. I. S. Zfass, re-elected Secretary and Treasurer. A new constitution and by-laws have been adopted by the society. Among the speakers at the various meetings have been: Dr. W. Gayle Crutchfield, neurosurgeon, who spoke on "Functions and Dysfunctions of the Cranial Nerves"; Dr. Paul Kimmelstiel, pathologist, who spoke on "Intercapillary Glomerular Sclerosis"; and Mr. C. D. Griffin, technician, who spoke on "Kidney Function Tests". One meeting was devoted to motion pictures, which were shown at Cameron Hall, Eastern State Hospital. Among other films shown at this meeting were the two sound films, "Diagnostic Procedures in Tuberculosis" and "Syphilis Clinic". The society will resume its regular monthly meetings in September.

I. S. ZFASS,
Secretary and Treasurer.

The Lynchburg Academy of Medicine

Held its regular meeting on June 5, with the president, Dr. S. E. Oglesby, presiding. Twenty-nine

members and four visitors were present. Dr. J. W. Devine, Jr., was elected to membership and also presented an illustrated paper on "Peripheral Vascular Disease". Delegates and alternates to the Medical Society of Virginia meeting in Richmond were elected at this meeting. The Academy voted to send telegrams to Senators and Representatives from Virginia opposing the Wagner Bill.

C. E. KEEFER,
Secretary-Treasurer.

The Southside Virginia Medical Association

Held its quarterly meeting at the Central State Hospital in Petersburg on June 13. The program was as follows: Ocular Manifestations of Systemic Diseases by Dr. H. S. Hedges, University; The Treatment of Peptic Ulcer of the Pyloric Sphincter by Dr. Guy W. Horsley, Richmond; Comparison of Continuous Drip Treatment of Peptic Ulcer with Other Methods by Dr. T. Neil Barnett, Richmond; Cancer of the Stomach by Dr. Frank S. Johns, Richmond; and The Uses of Sulphanilamide in Urology by Dr. Samuel Vest, University. There was a general round table discussion on sulphanilamide and its uses.

At the close of the program, the visiting doctors were entertained at a dinner by the Staff of the Hospital.

The next meeting will be held at Piedmont Sanatorium the second Tuesday in September. Dr. C. S. Dodd, Petersburg, is president, and Dr. R. L. Raiford, Franklin, secretary.

News Notes

Medical School Commencements.

MEDICAL COLLEGE OF VIRGINIA

The commencement exercises for the one hundred first session of the Medical College of Virginia were held June 3-6, opening with the Student Body Dance. The commencement sermon was delivered by the Reverend George Ossman, Rector of Monumental Episcopal Church.

Registration of alumni started on Monday morning and a dinner and dance were held that night. At the business meeting, Dr. W. H. Street, Richmond dentist, was elected president of the alumni association. Among the vice-presidents are Dr. C. D. Nossinger of Roanoke, and Dr. T. Neill Barnett of Richmond. Dr. T. Dewey Davis of Richmond is treasurer.

A buffet luncheon for the Board of Visitors, alumni, faculty, and senior classes was held at Cabaniss Hall on Tuesday. The final exercises were held at the Mosque that evening, at which time the commencement address was made by Dr. Otis W. Caldwell, General Secretary of the American Association for the Advancement of Science. The honorary degree of Doctor of Science was bestowed upon Dr. Walter Edward Vest, Huntington, W. Va., a graduate of the College in 1909. Graduates included sixty-one from the medical school, thirty-one from the dental, twenty-five from pharmacy, and thirty-eight from nursing. Commissions in the Officers' Reserve Corps were awarded twenty-seven of the medical school graduates. Following these exercises, the annual reception and dance was held at the John Marshall Hotel.

The following are the medical graduates with their hospital appointments:

HOSPITAL DIVISION, MEDICAL COLLEGE OF VIRGINIA, RICHMOND—Drs. Kenneth Jerome Cherry, Richmond; Beverley Boyden Clary, Richmond; Thomas Harrison Southgate Ely, Jonesville; Brainard E. Hines, Pocatello, Idaho; Gerald A. LoGrippo, Norristown, Pa.; Maurice E. Broadas Owens, Jr., Cumberland, Md.; and Catalina Scarano, Ponce, P. R.

STUART CIRCLE HOSPITAL, RICHMOND — Drs. William Perry Baker, Morgantown, W. Va.; and Casimir Francis Jaskiewicz, Buffalo, N. Y.

GRACE HOSPITAL, RICHMOND—Drs. Jose D. Coll y Cabrera, Fajardo, P. R.; Harold M. Goodman, Richmond; and James Fendall Parkinson, Jr., Richmond.

JOHNSTON-WILLIS HOSPITAL, RICHMOND—Dr. Luis Fernandez, Jr., Cabo Rojo, P. R.

ST. ELIZABETH'S HOSPITAL, RICHMOND — Dr. William H. Willis, Jr., Wilson, N. C.

CHARLESTON GENERAL HOSPITAL, CHARLESTON, W. VA.—Drs. John Woodrow Barnhart, Clendenin, W. Va.; John Wythe Hash, Elkhorn, W. Va.; Buford Wallace McNeer, Hinton, W. Va.

CHESAPEAKE AND OHIO HOSPITAL, HUNTINGTON, W. VA.—Drs. William Leman Claiborne, Ansted, W. Va.; James Beverly Thompson, Mt. Hope, W. Va.; and George Dennis Vaughan, Jr., Huntington, W. Va.

OHIO VALLEY GENERAL HOSPITAL, WHEELING, W. VA.—Drs. Ralph Morgan Buttermore, Wellsburg, W. Va.; and Harold B. Young, Hastings, W. Va.

SAINT MARY'S HOSPITAL, HUNTINGTON, W. VA.—Dr. Thomas Leon Grove, Ronceverte, W. Va.

SAINT JOSEPH'S HOSPITAL, LANCASTER, PA.—Dr. Annie Belle Bradley, Sutsien, China.

PHILADELPHIA JEWISH HOSPITAL, PHILADELPHIA, PA.—Drs. Eugenie M. Fribourg, Brooklyn, N. Y.; and Morton Guzy, Bridgeton, N. J.

WILKES-BARRE GENERAL HOSPITAL, WILKES-BARRE, PA.—Drs. Sidney Jesse Hellman, New York, N. Y.; Meredith Johnson, Fair Bluff, N. C.; and Natalie Shainess, New York, N. Y.

WOMEN'S HOSPITAL, PHILADELPHIA, PA.—Dr. Irene Levy Kossove, Richmond.

WESTERN PENNSYLVANIA HOSPITAL, PITTSBURGH, PA.—Dr. Milton Mercer Neale, Jr., Heathsville.

JEFFERSON MEDICAL COLLEGE HOSPITAL, PHILADELPHIA, PA.—Dr. John Early Stone, Bluefield, W. Va.

SAINT LUKE'S HOSPITAL, BETHLEHEM, PA.—Dr. Jack Wexler, Boston, Mass.

NEW YORK POLYCLINIC MEDICAL SCHOOL AND HOSPITAL, NEW YORK, N. Y.—Drs. Guy Hewitt Branaman, Jr., Waynesboro; and Rafael Antonio Gil y Rivera, Aibonito, P. R.

CONEY ISLAND HOSPITAL, BROOKLYN, N. Y.—Dr. Bernard Greenblat, Brooklyn, N. Y.

CUMBERLAND HOSPITAL, NEW YORK, N. Y.—Dr. Saul Krugman, New York, N. Y.

ISRAEL-ZION HOSPITAL, BROOKLYN, N. Y.—Dr. Carl Manuta, Brooklyn, N. Y.

KNICKERBOCKER HOSPITAL, NEW YORK, N. Y.—Dr. Harold I. Nemuth, Portsmouth.

BROOKLYN JEWISH HOSPITAL, BROOKLYN, N. Y.—Dr. Debora Pineles, New York, N. Y.

CITY HOSPITAL, CLEVELAND, O.—Dr. Helmut Max Dehn, Cleveland, O.

CINCINNATI GENERAL HOSPITAL, CINCINNATI, O.—Dr. James W. Humphreys, Jr., Richmond.

SAINT LUKE'S HOSPITAL, CLEVELAND, O.—Dr. Marion Fisher Jarrett, Charleston, W. Va.

BARONESS ERLANGER HOSPITAL, CHATTANOOGA, TENN.—Dr. John Reed Bumgarner, Wilkesboro, N. C.

DETROIT RECEIVING HOSPITAL, DETROIT, MICH.—Dr. Dewitt Cornell Daughtry, Clinton, N. C.

WISCONSIN GENERAL HOSPITAL, MADISON, WIS.—Drs. Arthur Binford Gathright, Jr., Dumbarton; and Avaline Norma Lancaster, Kissimmee, Fla.

SIBLEY MEMORIAL HOSPITAL, WASHINGTON, D. C.—Dr. Vaughan Harwood Link, Shenandoah Jct., W. Va.

U. S. PUBLIC HEALTH SERVICE, WASHINGTON, D. C.—Dr. Lloyd Davis Miller, Bristol.

GALLINGER MUNICIPAL HOSPITAL, WASHINGTON, D. C.—Dr. Norman Sollod, Petersburg.

MEDICAL CORPS, U. S. NAVY—Dr. Charles Francis Hudson, Richmond.

JERSEY CITY MEDICAL CENTER, JERSEY CITY, N. J.—Dr. Robert Coleman Longon, Jr., Richmond.

SAINT ANTHONY'S HOSPITAL, LOUISVILLE, KY.—Dr. Frederick Gray McConnell, Gate City.

LOUISVILLE CITY HOSPITAL, LOUISVILLE, KY.—Dr. William Jamison Robinson, Matthews, N. C.

JOHNS HOPKINS HOSPITAL, BALTIMORE, MD.—Dr. John Legerwood Patterson, Jr., Richmond.

SINAI HOSPITAL, BALTIMORE, MD.—Dr. Willard Pushkin, Huntington, W. Va.

TOURO INFIRMARY, NEW ORLEANS, LA.—Dr. E. Ling Shiuh, Canton, China.

ST. LOUIS CITY HOSPITAL, ST. LOUIS, MO.—Dr. William Massie Smethie, Richmond.

SCOTT AND WHITE HOSPITAL, TEMPLE, TEXAS—Dr. Harry Augustus Tubbs, Richmond.

OKLAHOMA STATE UNIVERSITY HOSPITAL, OKLAHOMA CITY, OKLA.—Dr. Maurice Burton Winstead, Pinetown, N. C.

REX HOSPITAL, RALEIGH, N. C.—Dr. Garland Miller Wright, Harrisonburg.

UNIVERSITY OF VIRGINIA

The University of Virginia commencement exercises for the one hundred fifteenth session were held from June 9 through the 13.

The annual meeting of the alumni was held on the 10. Also on this day were the alumni barbecue, the Phi Beta Kappa initiations, and the alumni ball. Father Edmund A. Walsh, regent of the school of foreign service in Georgetown University, Washington, preached the baccalaureate sermon on Sunday morning in Cabell Hall. In the afternoon President and Mrs. Newcomb were hosts at a reception at their

home, following which there was an organ recital in the McIntire Amphitheatre. The class of 1939 held its farewell exercises on Monday morning, at which time new trees to fill in upon the lawn were presented by the class. Governor James H. Price delivered the address at the final exercises. There was a graduating class of 420, of which fifty-one were from the school of medicine. The final ball followed these exercises.

The following are graduates from the medical school, with hospital appointments:

UNIVERSITY OF VIRGINIA HOSPITAL, UNIVERSITY—Drs. John Granville Crawford, Kilmarnock; Maynard Robert Emlaw, Richmond; Robert Ward Evans, Lynchburg; Christian Kevin Campbell Hoyle, Kittery, Maine; Bernard Kyle Mundy, Lynchburg; and Mark Early Myers, Harrisonburg.

JEFFERSON HOSPITAL, ROANOKE—Drs. John Edwin Beck, Charleston, S. C.; and Leslie Allen Faudree, Covington.

NORFOLK GENERAL HOSPITAL, NORFOLK—Drs. Garrett Gideon Gooch, III, Roanoke; Asa Wesley Graves, Lacey Springs; Lyddane Miller, Charlotte, N. C.; and Edward Barney Smith, Creeds.

U. S. MARINE HOSPITAL, NORFOLK—Dr. Stanley Howard Macht, Crewe.

ST. ELIZABETH'S HOSPITAL, RICHMOND — Dr. John Warren Montague, Roanoke.

VIRGINIA MASON CLINIC, SEATTLE, WASH.—Drs. John Dee German, Pocahontas; and John Campbell Hortenstine, Pittsburgh, Pa.

GOUVENEUR HOSPITAL, NEW YORK, N. Y.—Dr. Irving Berlin, Hampton.

NEW YORK HOSPITAL, NEW YORK, N Y.—Drs. Robert Montgomery Bird, Jr., University; and William Clark Quinn, Crisfield, Md.

EMORY UNIVERSITY HOSPITAL, ATLANTA, GA.—Drs. Charles Alonzo Anderson, Hinton, W. Va.; and Earl Rasmussen, Jr., Roanoke.

GRADY HOSPITAL, ATLANTA, GA.—Dr. Joseph Handley Rogers, Gadsden, Ala.

U. S. MARINE HOSPITAL, BALTIMORE, MD.—Drs. Harold Meyer Boslow, Appalachia; and Malcolm Judson Ford, Pembroke.

SOUTH BALTIMORE GENERAL HOSPITAL, BALTIMORE, MD.—Dr. Henry Cleveland Hunley, Jr., Norfolk.

SINAI HOSPITAL, BALTIMORE, MD.—Dr. Sidney Bernard Clark, Norfolk.

UNION MEMORIAL HOSPITAL, BALTIMORE, MD.—Dr. Robert Lee Payne, Jr., Norfolk.

PETER BENT BRIGHAM HOSPITAL, BOSTON, MASS.—Dr. Carlton Jerome Casey, Williamsburg.

ST. LUKE'S HOSPITAL, CLEVELAND. OHIO—Dr. Samuel Ward Casscella, Prince Bay, N. Y.

CINCINNATI GENERAL HOSPITAL, CINCINNATI, OHIO—Drs. Harvey Ernest Jordan, Jr., University; and Joseph Prentis Webb, II., University.

GOOD SAMARITAN HOSPITAL, CINCINNATI, OHIO—Dr. Vincent Mazzarella, Port Chester, N. Y.

CHARITY HOSPITAL, NEW ORLEANS, LA.—Drs. Horace Milton Dalton, Norton; Robert Kennon Hancock, Cape Charles; Joseph Page Pollard, Minor; and Francis Dunnington Smith, Henderson, Ky.

MEDICAL CENTER, JERSEY CITY, N. J.—Dr. Levi Woodbry Hulley, Jr., New Brighton, S. I., N. Y.

NEWARK CITY HOSPITAL, NEWARK, N. J.—Dr. David J. Lehman, Jr., West Orange, N. J.

DUKE UNIVERSITY HOSPITAL, DURHAM, N. C.—Dr. Samuel Summerfield Lambeth, III, Bedford.

PENNSYLVANIA HOSPITAL, PHILADELPHIA, PA.—Dr. Oscar Hunter McClung, Jr., Lexington.

GERMANTOWN DISPENSARY AND HOSPITAL, PHILADELPHIA, PA.—Dr. Herbert McKelden Smith, Jr., Staunton.

MERCY HOSPITAL, PITTSBURGH, PA.—Dr. John Thurston Thornton, Wheeling, W. Va.

ST. FRANCIS HOSPITAL, PITTSBURGH, PA.—Dr. Frank Bays Wolfe, Coeburn.

GALLINGER MUNICIPAL HOSPITAL, WASHINGTON, D. C.—Dr. Claudine Moss, Clarendon.

EMERGENCY HOSPITAL, WASHINGTON, D. C.—Dr. Guy Forrest Sutton, Jr., Staunton.

ST. MARY'S HOSPITAL, HUNTINGTON, W. VA.—Dr. John Strother Pearson, Bluefield, W. Va.

WHEELING HOSPITAL, WHEELING, W. VA.—Dr. Leonidas Williams, Charlottesville.

WISCONSIN GENERAL HOSPITAL, MADISON, WIS.—Dr. Hunter Huidekeper Romaine, Petersburg.

UNIVERSITY OF OKLAHOMA HOSPITAL, OKLAHOMA CITY, OKLA.—Dr. William Richard Smart, Norfolk.

HURLEY HOSPITAL, FLINT, MICH.—Dr. Frank Joseph Strohmenger, Irvington, N. J.

U. S. NAVAL HOSPITAL—Dr. Richard Bland Williams, Norfolk.

Dr. Jordan—Dean at University of Virginia.

Dr. Newcomb, president of the University of Virginia, has announced the election of Dr. Harvey E. Jordan as dean of the Department of Medicine, to succeed the late Dr. James Carroll Flippin. Dr. Jordan has been a member of the faculty since 1907, first serving as adjunct professor, then associate professor of anatomy, as professor of histology and anatomy since 1911, and also assistant dean of the Department of Medicine for some years. He has been acting dean since the death of Dr. Flippin in February.

Additions to University of Virginia Medical Faculty.

President Newcomb of the University of Virginia has announced the following elections to the faculty of the Medical Department of the University of Virginia:

Dr. Eugene M. Landis, associate professor of medicine in the University of Pennsylvania, has been elected professor of internal medicine to fill the vacancy created by the death of Dr. J. C. Flippin. Dr. Landis will devote his entire time to teaching and research and will not engage in outside practice.

Dr. Samuel A. Vest, associate professor of urology at the Brady Institute of Johns Hopkins University, will be associate professor of urology and head of the department of urology to fill vacancy caused by death of Dr. John H. Neff. Dr. Edgar Wilson Kirby, formerly assistant to Dr. Neff, has been named assistant professor of urology and proctology.

Dr. William H. Hill of the hospital staff has been elected instructor in surgery and gynecology for one year, to take the place of Dr. William H. Parker, who will engage in special study in cancer at the Memorial Hospital, New York City.

Personnel Notes from State Health Department.

Dr. William Grossmann has been appointed as Director of the Bureau of Communicable Diseases, effective July 1, to fill the vacancy caused by the resignation of Dr. G. Foard McGinnes.

Dr. J. B. Porterfield, Health Officer of the Peninsula Health District, has been appointed Epidemiologist in the Bureau of Communicable Diseases and will report for duty on July 1.

Dr. Edward M. Holmes, Jr., Health Officer of Fairfax County, has been appointed as Director of the Division of Venereal Disease Control, effective July 1.

Dr. S. D. Gardner, formerly Health Officer of the Valley Health District, has been appointed as Assistant Director of Rural Health with headquarters in Richmond, effective July 1.

Dr. James H. Gordon, Covington, Virginia, has resigned as Health Officer of the Alleghany-Botetourt Health District, effective July 1, in order to do graduate work in venereal diseases at the Stokes Clinic, University of Pennsylvania, Philadelphia. Dr. Wyatt E. Roye has been appointed to succeed Dr. Gordon.

Dr. J. C. Neale, Jr., Health Officer of the Augusta County Health Department, Staunton, has been appointed Assistant Director of Rural Health in charge of the Southwest Health District with headquarters at Abingdon, effective July 1. Dr. V. A. Turner, formerly Health Officer of the Buchanan-Russell-Tazewell Health District, who has been on a year's leave of absence for graduate study in public health at Harvard University, has been appointed to succeed Dr. Neale.

Dr. G. C. Carpenter, formerly Health Officer of the Dickenson-Scott-Wise Health District, who has been on a year's leave of absence for graduate study in public health at the Johns Hopkins School of Public Health, has been appointed Health Officer of Fairfax County.

Dr. Thomas Scarlett, Acting Health Officer of the Nansemond-Isle of Wight-Suffolk Health District, has been appointed Health Officer of Rockingham County, Harrisonburg, effective July 1.

Dr. B. Randolph Allen, formerly Health Officer of Pittsylvania County, who has been on leave of absence for a year's graduate study in public health at the Johns Hopkins School of Public Health, has been appointed as Health Officer of the Nansemond-Isle of Wight-Suffolk Health District with headquarters at Suffolk.

Dr. W. W. Fuller, formerly Health Officer of Montgomery County, who has been on a year's leave of absence for graduate study in public health at the Johns Hopkins School of Public Health, has been appointed Health Officer of the Peninsula Health District with headquarters at Williamsburg.

Dr. John H. Bonner, Health Officer of Prince George County, has been appointed as Health Officer

of the Page-Shenandoah-Warren Health District with headquarters at Luray, effective July 1.

Dr. Francis J. Clements, Health Officer of Sussex County, has been appointed Health Officer of the Sussex-Prince George Health District with headquarters at Stony Creek, effective July 1.

Dr. C. L. Riley, Health Officer of Prince William County, has been appointed as Health Officer of the Prince William-Stafford Health District with headquarters at Manassas, effective July 1.

Dr. Philip R. Cronlund has been appointed Assistant Health Officer of Pulaski County, effective June 15.

Dr. Marvin E. McRae has been appointed Assistant Health Officer of the Brunswick-Greensville-Mecklenburg Health District.

Married.

Dr. Brooke Baylor Mallory, Lexington, of the class of '35 of the University of Virginia, Department of Medicine, and Miss Virginia Bailey Carter, Lynchburg, June 16.

Dr. Robert Hamilton Williams, Olympia, Washington, and Miss Frances Seward Anderson, Lynchburg, June 17. Dr. Williams is a graduate of the University of Virginia, Department of Medicine, in 1938. He is medical resident at the Virginia Mason Clinic in Seattle, where they will make their home.

Dr. John D. Hamner, Jr., and Miss Evelyn Shepherd, both of Richmond, June 24. He is a graduate of the Medical College of Virginia in 1935.

Dr. Claudio Rodriguez Arce, Newport News, and Miss Louise Henrietta Berger, Richmond, June 14. Dr. Rodriguez graduated from the Medical College of Virginia in 1938 and is now serving an internship in Newport News.

Dr. Ralph Judson Sykes, class of '34, Medical College of Virginia, and Miss Edith Claire Leake, June 10. Upon their return from a trip, they will reside at Weldon, N. C.

Mr. McCauley Honored.

On June 2, a surprise gift was presented Mr. J. R. McCauley, secretary-treasurer of the Medical College of Virginia, upon his completion of thirty-five years of service. The gift, a silver pitcher and goblets and a set of M. C. V. china, was presented on behalf of his friends at the school by Dr. Stuart McGuire, chairman of the executive committee of the board of visitors. Mr. McCauley was in Memorial Hospital, recovering from a leg injury, and was taken to the meeting in a wheel chair, thinking he was going to discuss plans for an alumni luncheon.

Dr. Tucker's Portrait Presented.

A portrait of Dr. David Hunter Tucker was presented to the Medical College of Virginia on June 14. Dr. Tucker came to Richmond in 1849 as professor of medicine at the Medical College of Virginia, which chair he held until 1869, and, from 1853 to 1856, he was also dean of the College. The portrait was painted by Miss Virginia Kennady, of Richmond, and was presented by Dr. Beverley R. Tucker, a great nephew.

News from the University of Virginia, Department of Medicine.

Dr. Oscar Swineford addressed the West Virginia Academy of Medicine meeting in Parkersburg, on April 4. His subject was The Diagnosis of Allergic Diseases. On May 10, he delivered a lecture before a Postgraduate Clinic in Arvonia, under the auspices of the University of Virginia Extension Division. His subject was Chronic Arthritis. On May 24, he gave a second lecture on Allergy in General Practice.

On May 13, Drs. W. E. Bray and O. R. Kelley presented a joint paper entitled Prothrombin Studies, Especially in the Newborn before the American Society of Clinical Pathologists meeting in St. Louis.

On May 10, Dr. J. M. Meredith addressed the monthly scientific meeting at the Medical College of Virginia on the subject of Brain Tumors. On June 7 he spoke before the James River Medical Society in Arvonia, on Headaches.

On May 17, Dr. E. W. Kirby addressed the Postgraduate Clinic in Arvonia, on the subject Urological Problems in Children. Dr. Staige D. Blackford discussed Gall Bladder Disease and Its Treatment.

Dr. H. B. Mulholland delivered a lecture on Carbohydrate Metabolism before a Postgraduate Clinic in Lynchburg, on May 19. On May 22, he spoke before the Rockbridge County Medical Society meeting in Lexington. His subject was Dehydration.

On June 7, Dr. W. W. Waddell, Jr., spoke before the James River Medical Society, meeting in Arvonia. His subject was Treatment of Severe Diarrhea in Infants.

Dr. Alfred Chanutin has been given a research grant of $2,500.00 from the John and Mary R. Markle Foundation for studies on pressor substances with the aid of the ultra-centrifuge.

Mr. Charles A. Stone has contributed a gift of $2,000.00 for the support of studies on the treatment of spontaneous hemorrhage in the newly born with Vitamin K by Dr. W. W. Waddell and for Dr. Chanutin's investigations of pressor substances.

Dr. Sydney Britton was awarded a research grant of $2,500.00 from the Committee on Research in Endocrinology of the National Research Council for aid in his investigations of cortico-adrenal extract.

Jefferson Medical College of Philadelphia.

The one hundred and fourteenth commencement of the College was held on June 2, at which the valedictory address was delivered by the Hon. Arthur H. James, Governor of Pennsylvania. The graduating class numbered 122, bringing the total number of graduates to 16,569. Forty-four members of the class were commissioned as First Lieutenants in the Medical Section of the Officers' Reserve Corps.

Alumni Day and Ex-Internes' Day Clinics were held on May 31 and June 1, in the Clinical Amphitheatre of the Hospital. The annual alumni dinner was held on the 1st, with 500 alumni in attendance.

News from Duke University School of Medicine.

Dr. Molly Harrover Erickson, of the Montreal Nurological Institute, recently addressed the students and staff on "Psychological Studies Upon Individuals with Organic Disease of the Central Nervous System."

On June 5, sixty-four students were graduated from the School of Medicine, twenty-three from the School of Nursing, and eighteen students and graduates of the School of Nursing received the degree of Bachelor of Science in Nursing. The following five medical school graduates were elected to Alpha Omega Alpha: John M. Douglas, Colin A. Munroe, Joseph A. C. Wadsworth, Kenneth D. Weeks and Irving B. Wexler.

Dr. Richard C. Neale,

Director of Physicians' Service Laboratories, Richmond, was elected to membership in the American Society of Clinical Pathologists, at its annual meeting in St. Louis in May.

The Association of Southern Railway Surgeons,

At the annual meeting held in Washington, D. C., in June, elected Dr. F. Webb Griffith of Asheville, N. C., president, succeeding Dr. W. H. Frampton of Charleston, S. C. It was voted to hold the 1940 convention in Charleston, S. C., in May.

Dr. Alexander G. Brown,

Richmond, was re-elected surgeon general of the General Society of Colonial Wars at its assembly in Baltimore in May.

Dr. H. B. Damron,

Class of '32, Medical College of Virginia, recently of Elizabethton, Tenn., has gone to Baltimore where he is serving a residency at the Baltimore Eye, Ear and Throat Hospital. Mrs. Damron and their daughter, Phyllis, accompanied him.

Dr. Charles R. Irving,

Of Albemarle County, has been appointed assistant to the Chief Surgeon of the Chesapeake and Ohio Railway, and he will be located in Richmond. He entered upon his duties on June 1. Dr. Irving graduated from the Medical College of Virginia in 1915, and is a retired army officer.

Dr. L. I. Hoke,

Formerly of Layland, W. Va., has moved to Nitro, W. Va., where he is engaged in general practice.

Rare Old Medical Texts.

Physicians and Medical Historians are invited to visit the summer exhibition of rare old medical texts in Hebrew, including books and manuscripts from the pens of Isaac Israeli, Maimonides, Pope John XXI, Arnold of Villanova, al-Razi, Avicenna, Nathan ben Joel Falaguera, Moses Narboni, Abraham Kaslari, and the like. These are in the Jewish Theological Seminary at Broadway and 122nd St., New York, and are on display from 10 to 5 every day except Friday and Saturday.

Dr. Linwood D. Keyser.

At the executive session of the American Urological Association held recently at White Sulphur Springs, W. Va., Dr. Keyser of Roanoke was elected as delegate to the Pan-American Congress of Urologic Surgeons, to be held at Santiago, Chile, in the spring of 1940. He will present to the South American urologists a survey of progress of the work being done in the United States and Canada with regard

to the formation of urinary stone and infection. Dr. Keyser has made numerous contributions to this subject during the past few years.

St. Elizabeth's Hospital,

Richmond, has recently published its annual report which covers the work of the hospital in its twenty-seventh year. It includes all patients admitted to the hospital, but does not include those operated upon or treated elsewhere by members of the Staff.

The first few pages give the list of publications by members of the Staff, the statistics of the School of Nursing, the Out-Patient Department, and Laboratory. This is followed by a record of the diagnosis and operation on all patients admitted. To this has been added this year a new section which clarifies and condenses the operations with reference to regions. This is a very valuable addition, especially for quick reference to the operations. The usual critical résumé of all deaths occurring during the year in the hospital is given in the last few pages.

The total number of surgical cases for 1938 was 1,138, as compared with 1,137 in 1937; total medical cases 329 in 1938, and 328 in 1937. There was an increase in the number of urological cases, 250 in 1938 as compared with 212 in 1937. There was a marked increase in the number of appendix cases, with 206 in 1938 against 165 in 1937. The number of cancer cases for 1938 was essentially the same as 1937, but there was an increased number of vaginal hysterectomies, transurethral resections and harelip repairs. The number of out-patients also increased during 1938, with a total of 3,988 as compared with 3,782 in 1937.

There was a total of forty deaths with thirty-four necropsies (85 per cent). This is a better percentage than in 1937 when necropsies were performed on only 67.3 per cent of the deaths. The total death rate for 1938 was 2.8 per cent, as compared with 3.04 per cent for 1937.

Dr. Wright Clarkson,

Petersburg, by invitation, gave a talk on "Radiology in the Diagnosis and Treatment of Malignancy", at Wake Forest, N. C., on May 29, before a joint meeting of the medical profession of North Carolina and the Medical Alumni Association of Wake Forest College.

Dr. John H. Hoskins,

Who has been studying at the New York Polyclinic Hospital for the past year, has re-opened his offices in Lynchburg, at 1112 Church Street, and will limit his practice to Urology.

This item, used in the June MONTHLY, was inadvertently printed as Dr. John H. Hopkins.

Dr. Alexander G. Brown, III,

Richmond, left the latter part of June for New York, for a visit to the World's Fair, following which he will go to Sebago Lake, Maine, where he will be resident physician at Camp Pokomoke, for the month of July.

Institute on Blood and Blood-Forming Organs.

The University of Wisconsin Medical School is to conduct an Institute for the Consideration of the Blood and Blood-Forming Organs, September 4-6, 1939. The program is to include papers and round-table discussions by European and American workers in the field of hematology.

Physicians and others who are interested are cordially invited. A detailed program may be obtained by addressing Dr. Ovid O. Meyer, Chairman of Program Committee, University of Wisconsin Medical School, Madison, Wisconsin.

Dr. Thomas Wheeldon,

Richmond, was elected to fellowship in the International College of Surgeons, the latter part of May.

Dr. H. Cantor,

Petersburg, was re-elected, on June 10, as vice-president of the combined medical, dental, architectural, engineering and undergraduate section of the Harvard Club of Virginia.

Dr. W. L. Griggs, Jr.,

Recently of St. Charles, where he was connected with the Benedict Coal Corporation, and was active in Masonic and professional affairs of that community, has moved to Gate City, where he will be engaged in general practice, having taken over the work of the late Dr. J. M. Dougherty, Jr.

Dr. and Mrs. Thomas D. Jones

Will return to their home in Richmond, early in July, after a western trip on which they visited the Grand Canyon, Los Angeles, San Francisco, Yellowstone Park, and Salt Lake City. One of their sons met them in the West and accompanied them on part of their trip.

American Medical Association.

The ninetieth annual session of the Association in St. Louis in May was a success in every way. There

was a registered attendance of 7,348 doctors, the following being those registered from Virginia:

Dr. E. L. Alexander, Newport News.
Dr. V. W. Archer, University.
Dr. Mary B. Baughman, Richmond.
Dr. William Bickers, Richmond.
Dr. W. E. Bray, Charlottesville.
Dr. Wright Clarkson, Petersburg.
Dr. Dean B. Cole, Richmond.
Dr. D. S. Daniel, Richmond.
Dr. J. W. Davis, Jr., Lynchburg.
Dr. J. H. Deyerle, Harrisonburg.
Dr. W. K. Dix, Richmond.
Dr. R. V. Funsten, University.
Dr. A. D. Hart, University.
Dr. Guy W. Horsley, Richmond.
Dr. J. Shelton Horsley, Richmond.
Dr. A. D. Hutton, Marion.
Dr. Philip Jacobson, Petersburg.
Dr. T. G. Jantz, Bedford.
Dr. Walter B. Martin, Norfolk.
Dr. R. L. Phipps, Clintwood.
Dr. Morgan B. Raiford, Franklin.
Dr. I. C. Riggin, Richmond.
Dr. M. P. Rucker, Richmond.
Dr. W. V. Rucker, Bedford.
Dr. J. W. Sayre, Newport News.
Dr. A. M. Showalter, Christiansburg.
Dr. J. S. Staley, Marion.
Dr. J. B. Stone, Richmond.
Dr. L. E. Stubbs, Newport News.
Dr. Oscar Swineford, University.
Dr. Warren T. Vaughan, Richmond.
Dr. P. P. Vinson, Richmond.
Dr. Carrington Williams, Richmond.

The American Board of Obstetrics and Gynecology

Announces that at their examinations in St. Louis, in May, 228 candidates were successful in the examinations and were certified by the Board.

At the meeting of the Board, at this time, it was found necessary to increase the application and examination fees, effective immediately, as follows: Application fee $15.00, payable upon submission of application for review by Board. Examination fee $75.00, payable upon notification to candidate of acceptance of the application and assignment for examination. Neither fee is returnable. This increase does not apply to candidates whose applications were filed prior to May 12, 1939.

The next written examination and review of case histories (Part I) for Group B candidates will be held in various cities of the United States and Canada on Saturday, December 2, 1939, at 2:00 P. M. Applications for admission to this examination must be on file in the Secretary's office not later than October 4, 1939.

For further information and application blanks, address Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh (6), Pennsylvania.

Dr. and Mrs. W. L. Harris,

Of Norfolk, will spend the months of July and August at Virginia Beach, as has been their custom for some years.

Dr. Ramon D. Garcin,

Richmond, has been re-elected as a member of the City School Board.

Dr. Lee Scott Barksdale,

Medical College of Virginia, class of '37, has been appointed director of the newly-formed Hopewell City Health Department, effective July 1. Dr. Barksdale has been serving internships at the Medical College of Virginia.

Dr. DeJarnette to be Honored.

The State Hospital Board will meet at the Western State Hospital, Staunton, on July 21, when tribute will be paid Dr. J. S. DeJarnette who for fifty years has been superintendent of the hospital. Five of Virginia's former Governors will be among the guests present.

American Association of Genito-Urinary Surgeons.

At the annual meeting of this association, held in Williamsburg, May 24-26, the following officers were elected: President, Dr. J. B. Clark, New York, N. Y.; vice-president, Dr. M. L. Boyd, Atlanta, Ga.; and secretary, Dr. Charles C. Higgins, Cleveland, Ohio.

Dr. Fred M. Hodges,

Prominent X-ray specialist of Richmond, was elected president of the American College of Radiology, at its meeting held in May.

Dr. William Parker Terry,

Class of '38, Medical College of Virginia, has located in Victoria where he will be engaged in general practice. He has recently been serving an internship at Stuart Circle Hospital, Richmond.

Deaths from Tuberculosis.

According to Dr. Kendall Emerson, Managing Director of the National Tuberculosis Association, tuberculosis still ranks as the Number One killer

for people between the ages of fifteen and forty-five, in spite of a decrease of about 6,000 in the number of deaths from this disease in 1938. Figures show that 63,332 persons died of tuberculosis in 1938 compared with 69,292 in 1937. Forty-three states and the District of Columbia reported fewer fatalities, while five states, including Virginia, showed a slight decrease.

Dr. James B. Shuler

Of the University of Virginia, Department of Medicine, class of 1935, has been transferred from New York to USS Yorktown, care of Postmaster, San Diego, California.

The American Urological Association

Met at White Sulphur Springs, W. Va., on May 29, 30, 31 and June 1. The officers of the organization are: Dr. Edgar G. Ballenger, Atlanta, Ga., President; Dr. James B. Cross, Buffalo, N. Y., President-Elect; Dr. Clyde L. Deming, New Haven, Conn., Secretary.

Among the Virginia surgeons participating in the meeting were Dr. Linwood D. Keyser, Roanoke, who was Chairman of the Scientific Exhibits Committee, and Dr. Austin I. Dodson, Richmond, who was Chairman of the Registration Committee. The scientific exhibit was the largest in the history of the organization, a feature of this being the demonstration of about fifty motion pictures, many in colors, on urologic operations.

At the executive session Dr. T. Leon Howard, Denver, Col., was elected President-Elect for the year 1940. The place of the 1940 meeting will be determined later.

New Books.

The following are recent acquisitions to the Library of the Medical College of Virginia and are available to our readers, the only cost being return postage:

Adolph, E. F.—Regulation of size as illustrated in unicellular organisms.
Allen, E.—Sex and internal secretions. 2nd edition.
Baker, S. J.—Fighting for life.
Bernal, J. D.—The social function of science.
Bernheim, B. M.—Medicine at the crossroads.
Bloomfield, L.—Linguistic aspects of science.
Bonnell, J. S.—Pastoral psychiatry.
Booth, H. S., ed.—Inorganic syntheses. vol. 1.
Cathcart, E. P.—The human factor in industry.
Clark, P. F.—Alice in virusland.
Comroe, B. I.—Internal medicine in dental practice.
Cutler & Buschke.—Cancer, its diagnosis and treatment.
Diehl & Shepard.—The health of college students.
Du Noüy, P. LeC.—Biological time.
East & Hubert.—The psychological treatment of crime.
Eppinger, H.—Die Leberkrankheiten. Allgemeine und spezielle Pathologie u. Therapie der Leber.
Furnas, J. C.—So you're going to stop smoking.
Gantt, W. H.—Russian medicine. (Clio medica XX.)
Gumpert, M.—Dunant: the story of the Red Cross.
Harris, L. J.—Vitamins and vitamin deficiencies.
Harrison, T. R.—Failure of the circulation. 2nd edition.
Haskins, C. P.—Of ants and men. .
Heiser, V.—You're the doctor.
Jameson, E. M.—Gynecology and obstetrics. (Clio medica XVII.)

Medical Research Work Done.

Physician having access to a complete medical library offers his services for locating references or for medical research of any kind. Fees reasonable. Address No. 38, care this JOURNAL, 1200 East Clay Street, Richmond. (*Adv.*)

Home and School for "Exception" Children.

The Thompson Homestead School, located at Free Union, near Charlottesville, is especially adapted to the shy, nervous, retarded or unsocial child. Enrollment limited. For detailed information write Mrs. J. Bascom Thompson, principal, Free Union, Va. (*Adv.*)

Home for Convalescences.

A home for the care and treatment of chronic aged and convalescences has been opened at Arrington, Nelson County, Virginia, under the direction of Dr. and Mrs. Fred M. Horsley. Information upon request. (*Adv.*)

For Sale.

Ophthalmoscope (new), "Tycos" Baumometer, Stethoscope, "Imperatori" Treatment and Diagnostic Unit (used about three years), "Betz" Modern Ear, Nose and Throat Cabinet, complete with sterilizer, stool and chair, Tonsil instruments (some used two years), D'Arsonval Diathermy, Coagulation Machine, Eye Instrument Case, Sound Testers in Case, and other medical instruments and equipment found in the office of a specialist or general practitioner. Address Mrs. W. E. Fahrney, Broadway, Va. (*Adv.*)

Young Physician Wanted.

An excellent opportunity for a young physician as Assistant Medical Director for a Life Insurance Company. Address "Insurance", care this JOURNAL, 1200 East Clay Street, Richmond. (*Adv.*)

Obituary Record

Dr. J. M. Dougherty, Jr.

The Clinch Valley Medical Society records with profound sorrow the death of one of its younger members, Dr. J. M. Dougherty, Jr., of Gate City, on May 4, 1939. He died suddenly in his office from a heart attack.

He was a native of Scott County, and, after receiving his academic education at Randolph-Macon Academy, Emory and Henry College, and the College of William and Mary, he received his M.D. degree from the Medical College of Virginia in the year 1925.

Dr. Dougherty was a very popular young physician and had a large and rapidly growing practice. For the first five years he had been a staff member of the Holston Valley Community Hospital of Kingsport, Tenn., a member of the local Medical Society, Clinch Valley Medical Society, Medical Society of Virginia, and American Medical Association. At the time of his death he was secretary of the Scott County Medical Society.

Although busy in the general practice of medicine, he was alert in the civic welfare of the county. In the passing of Dr. Dougherty the Society and State have lost a valuable citizen.

BE IT RESOLVED that we, representing the Clinch Valley Medical Society, extend to his wife and members of his family our heartfelt sympathy.

BE IT FURTHER RESOLVED that a copy of these resolutions be sent to his wife, Mrs. Alma Turner Dougherty, one to the VIRGINIA MEDICAL MONTHLY and a copy to the *Kingsport Times*.

J. H. HAGY,
S. P. GARDNER,
W. P. GILMER,
V. W. QUILLEN,
Committee.

Dr. James Kennedy Corss,

Prominent surgeon of Newport News, died June 6, following several months of illness. He was a native of Pennsylvania and seventy years of age. Dr. Corss received his medical degree from the University of Pennsylvania in 1892, and located for practice in Newport News in 1895. He was a member of several local and national medical and fraternal organizations, and an honorary member of War Birds International for medical service at the Curtiss flying field. For over twenty years, Dr. Corss was a member of the U. S. Pension Board at Ft. Monroe. He joined the Medical Society of Virginia in 1898. Dr. Corss was also a Mason, a Shriner, an Elk and a member of the Odd Fellows. His wife died several years ago.

Resolutions on Dr. J. N. Elder.

On Thursday, the 18th of May, 1939, after a lingering illness, Dr. Jeffrey N. Elder passed from life.

Dr. Elder was born in North Carolina and was educated at Trinity College, now Duke, and took a medical course at the Medical College of Virginia, graduating in 1913. After his internship, he located in Hopewell in 1915, being one of the earliest physicians here. After practicing until 1917, he volunteered for service in the World War, and went overseas and saw a great deal of active service, being severely gassed, from which he never fully recovered.

Returning to his practice, he led a very busy life, endearing himself to his patients by his kind, gentle and sympathetic character.

IT IS HEREBY RESOLVED that this brief memorial shall be incorporated in the records of this Association and a copy sent to Dr. Elder's family, and one to *Hopewell News* and VIRGINIA MEDICAL MONTHLY.

J. C. BODOW,
T. E. ARMSTRONG,
S. B. PERRY,
Chairman.

Dr. Charles Horace Mayo,

Rochester, Minn., died of pneumonia at a Chicago Hospital on May 26, en route home from Arizona. He was seventy-three years of age. He and his brother, Dr. William J. Mayo, are internationally known in organizing the Mayo Clinic where they have dedicated their lives to the relief of physical suffering. Before his retirement in 1929, Dr. Mayo had performed thousands of operations, among them the removal of 700 cataracts from eyes. He was recognized generally as the originator of modern goiter surgery and was a pioneer in surgical treatment of the nervous system. In 1916, Dr. Mayo was president of the American Medical Association, and in 1924, president of the American College of Surgeons. His wife, six children, one of them being Dr. Charles William Mayo, and his brother survive him.

Dr. Samuel W. Price,

Scarbro, W. Va., died May 31, at the age of sixty-eight. He was a graduate of the former University College of Medicine, Richmond, in 1896. He was senior surgeon for the New River Company and a member of the West Virginia Public Health Council.

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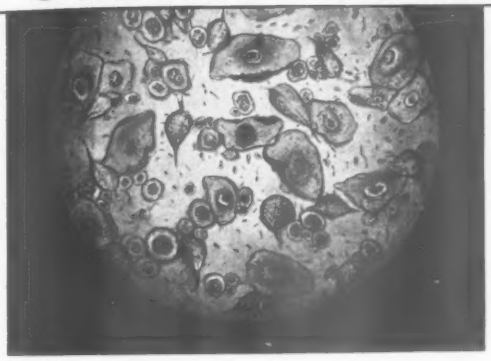

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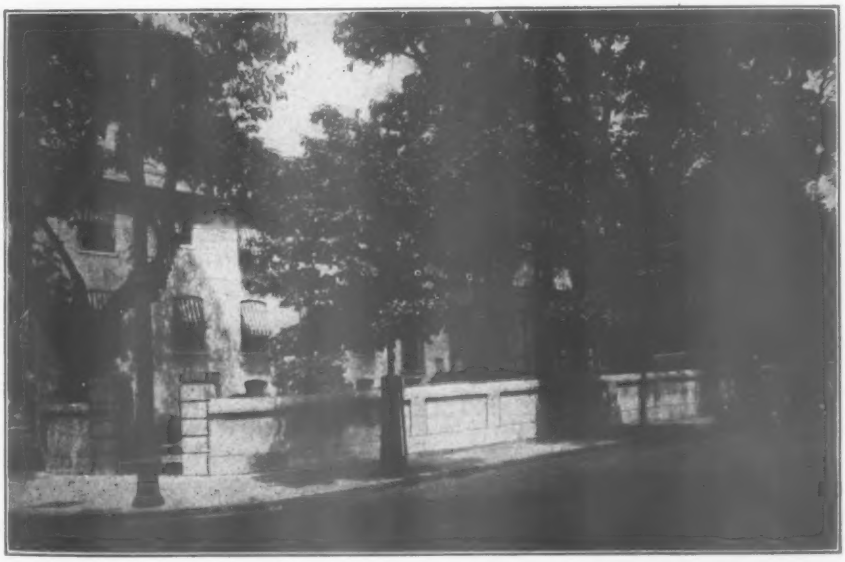

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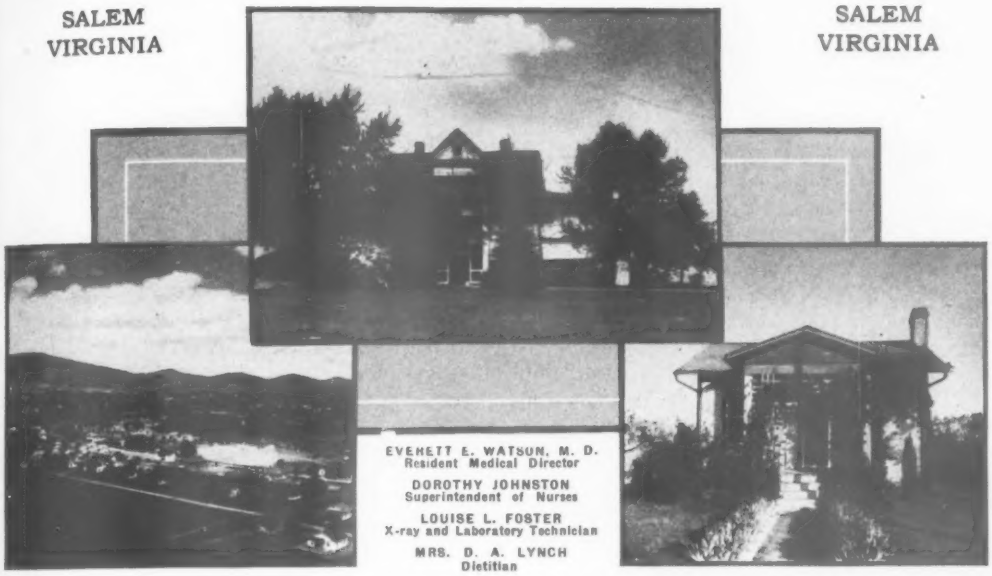

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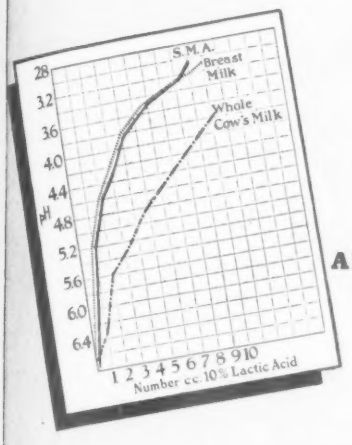

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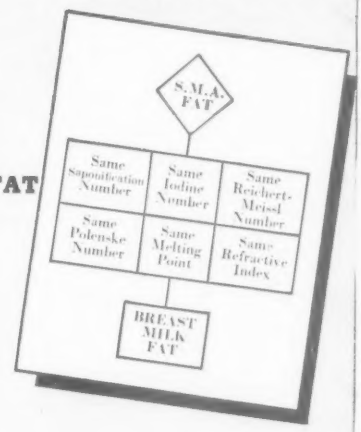

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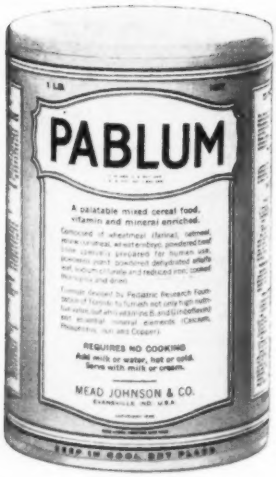
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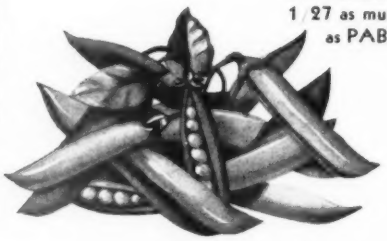

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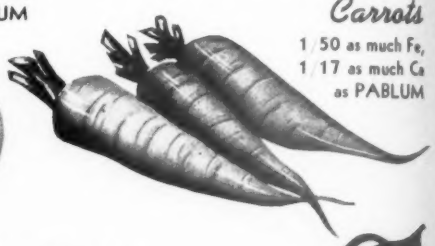
as PABLUM



NOT only does Pablum have a higher iron and calcium content than vegetables but, most important, clinical studies of children have demonstrated that in Pablum these minerals are in available form. Investigations by Stearns and Stinger, Schlutz, and Cowgill show that even such an iron-rich vegetable as spinach did not increase iron storage in the body, in fact, caused a loss in some instances. A factor responsible for this difference may be the higher content of *soluble* iron in Pablum—7.8 mg. per oz. Then, too, the water in which Pablum is cooked (by a patented process) is dried with it, whereas the cooking water of vegetables is usually discarded, with its valuable content of minerals and vitamins. Stearns reports difficulty in feeding spinach in sufficient quantities to affect the iron balance of children. Spinach and other highly flavored vegetables are often difficult to feed. Pablum, on the other hand, is a palatable cereal that can be fed as early as the third month, and for older children it can be varied in dozens of appetizing dishes. Recipes and samples available on request of physicians.

String Beans
1/31 as much Fe,
1/15 as much Ca
as PABLUM

Beets
1/12 as much Fe,
1/32 as much Ca
as PABLUM

Spinach
1/12 as much Fe,
1/10 as much Ca
as PABLUM

Pablum consists of wheatmeal (farina), oatmeal, wheat embryo, cornmeal, beef bone, brewers yeast, alfalfa leaf, sodium chloride and reduced iron

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